Connectivity solutions
Smart power monitoring for single or multiple systems

ABB offers intelligent solutions that monitor the status of your power system and thus ensure your data storage equipment or control process continues to receive clean, reliable power. The monitoring devices provide real-time visibility of the condition of your power equipment and help in identify problematic trends before they become critical.

Power and environmental monitoring
Network interface cards connect ABB's UPS systems to the network. These cards also provide the ability to connect several environmental sensors to the UPS. This combination allows for a clear visual representation on a web interface of not only the UPS system but also its environment.
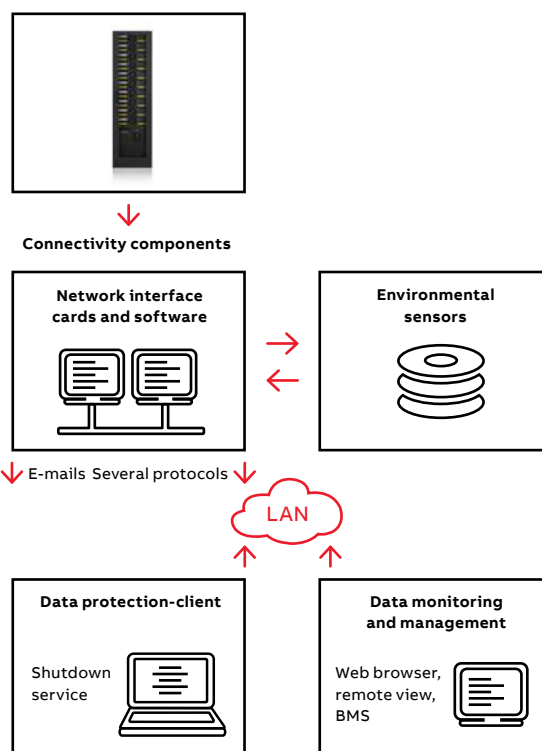
Management software
The network interface cards are provided with extensively configurable software that provide access to measurement values and to the UPS's status information. The status of each UPS cabinet, UPS module or the entire system can be presented on a separate mimic diagram. These diagrams provide users with clear, real-time information. During normal operation, records of all events are kept in a log file. In case of a power failure, battery autonomy is monitored and network shutdown of the protected devices is initiated.

Data protection
The remote shutdown software manages a particular workstation, network or servers. Shutdown or reboot can be executed safely.

In addition, text messages, e-mails, pop-ups and mobile messages can be dispatched or displayed before the devices are shut down – giving the user the flexibility to manage or cancel the operation.

Connectivity components

Network interface cards and software

Environmental sensors

E-mails Several protocols

LAN

Data protection-client

Shutdown service

Data monitoring and management

Web browser, remote view, BMS

Highlights
- Remote monitoring via web
- Environmental monitoring
- Extensive alarm handling and dispatching
- Redundant UPS monitoring
- Integration into network or building management system
- Integration into multivendor and multiplatform environments
- ModBus interface
- Multiple standard protocols are supported

Applications
- Personal computers
- Servers and network devices
- Data centers
- Storage systems
- Industrial automation
- Power systems

Connectivity solutions
Network interface cards

ABB offers several network interface options to suit all the customers' needs:

Slot format

CS141 Basic
For interfacing the UPS with the network without the need for additional sensors or interfaces. Available in slot and box formats.

Supports the following protocols

1	HTTP	4	ModBus TCP
2	SNMP	5	Telnet FPT
3	SMTP (e-mail)		

Slot format

CS141 Advanced
For interfacing UPS with the network and allowing users to connect additional sensors and I/O options either directly to the card or via sensor manager. Available in slot and box formats.

Supports the following protocols

1	HTTP	4	ModBus TCP
2	SNMP	5	Telnet FPT
3	SMTP (e-mail)	6	ModBus RS-232

Box format

CS141 ModBus
For interfacing UPS with the network and the ModBus RS-485 with option to connect alarms buzzers or additional relay board. Available in slot and box formats.

Supports the following protocols

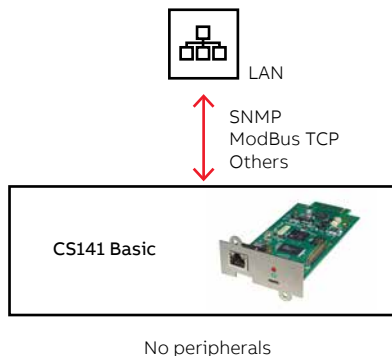|			
1	HTTP	4	ModBus TCP
2	SNMP	5	Telnet FPT
3	SMTP (e-mail)	6	ModBus RS-485

Slot format

USHA+
For interfacing UPS with the network with an option to connect additional environmental sensors. Available in slot format only.

Supports the following protocols

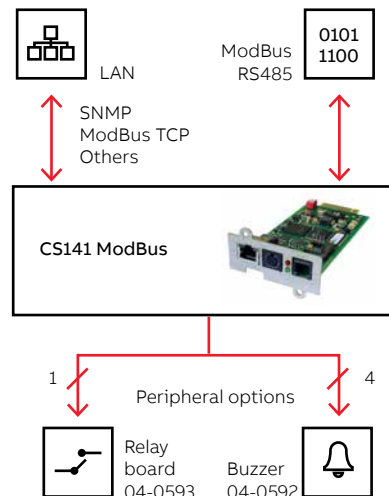|			
1	HTTP	4	ModBus TCP
2	SNMP	5	Telnet FPT
3	SMTP (e-mail)		

Slot cards are UPS powered, while cards in box format require external power.

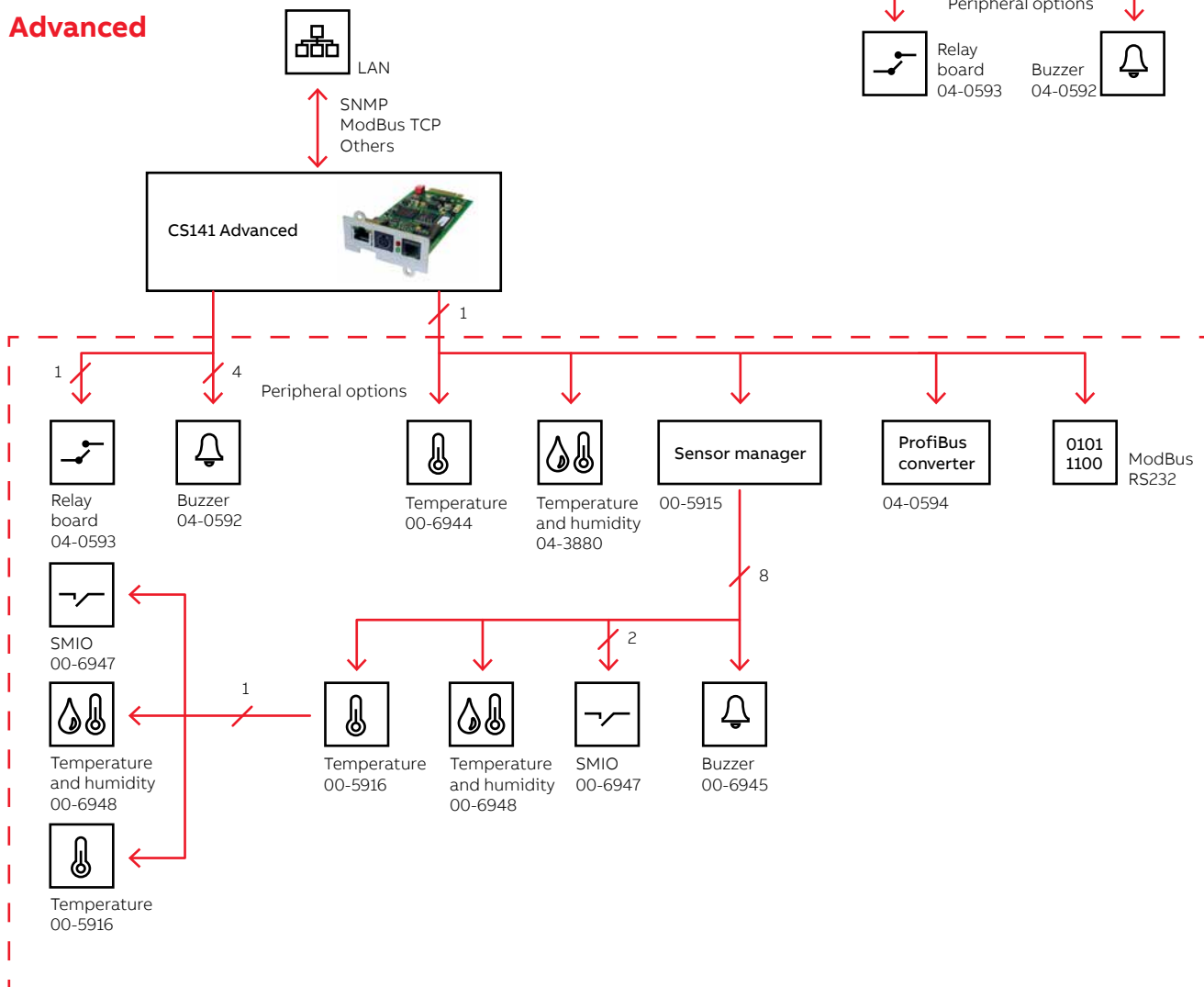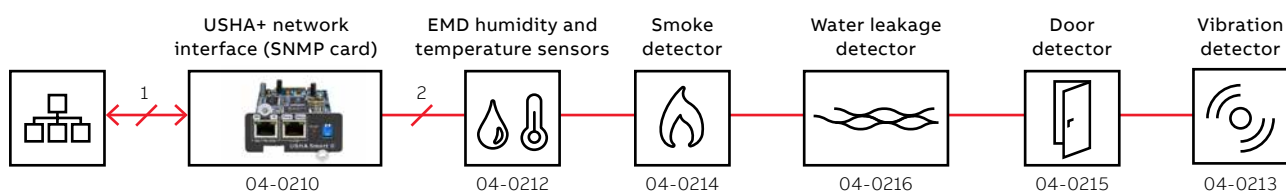# Connectivity and sensor options for CS cards and boxes

Basic

LAN

SNMP
ModBus TCP
Others

CS141 Basic

No peripherals

ModBus

LAN

0101
1100
ModBus RS485

SNMP
ModBus TCP
Others

CS141 ModBus

1 — Peripheral options — 4

Relay board
04-0593

Buzzer
04-0592

Advanced

LAN

SNMP
ModBus TCP
Others

CS141 Advanced

1

1 — Peripheral options — 4

Relay board
04-0593

Buzzer
04-0592

Temperature
00-6944

Temperature and humidity
04-3880

Sensor manager
00-5915

ProfiBus converter
04-0594

0101
1100
ModBus RS232

8

2

Temperature
00-5916

Temperature and humidity
00-6948

SMIO
00-6947

Buzzer
00-6945

SMIO
00-6947

1

Temperature and humidity
00-6948

Temperature
00-5916

Connectivity and sensor options for USHA+ card

1

USHA+ network interface (SNMP card)

2

EMD humidity and temperature sensors

Smoke detector

Water leakage detector

Door detector

Vibration detector

04-0210

04-0212

04-0214

04-0216

04-0215

04-0213
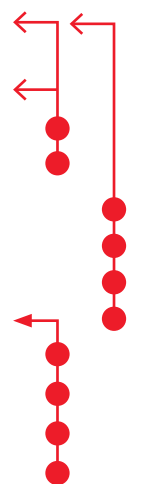
Connectivity solutions
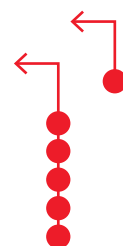## Monitoring for single or multiple systems

List of connectivity and sensor options for different network interfaces

							Sensor connections
CS141 **Network interface***	04-3865	Box	CS141 Basic	Web / SNMP interface ModBus TCP	No sensor options		
	04-3866	Slot			No aux options		
	04-3861	Box	CS141 Advanced		Optional sensors		
	04-3862	Slot			Aux connection		
	04-3863	Box	CS141 ModBus		ModBus RS-845		
	04-3864	Slot			Aux connection		
I/O options	04-0592	Alarm buzzer CS141			Buzzer, 60 dB	5 m cable	
	04-0593	Relay board CS141			4 digital inputs 4 relay outputs	1 m cable	
	04-0594	Profibus converter			External DIN rail mount device		
	00-6944	Temperature sensor			−25 °C to +100 °C, ±0.5%	1.8 m cable	
	04-3880	Combisensor for temperature and humidity			−25 °C to +100 °C, ±0.5% 0% to 100% RH, ±5%	1.8 m cable	
Sensor manager options	00-5915	Sensor manager			Environmental interface		
	00-5916	Temperature sensor			0 °C to +100 °C, ±0.5%	5 m cable	
	00-6948	Combisensor for temperature and humidity			0 °C to +100 °C, ±0.5% 0% to 100% RH, ±5%	5 m cable	
	00-6945	Alarm buzzer			85 dB	5 m cable	
	00-6947	Relay box			1 input contact 1 output contact	5 m cable	
RCCMD	04-3869	RCCMD license			For Windows, Linux, MAC X, OS / 2, UNIX, NOVELL		
	04-3870	RCCMD license			For IBM AS 400 V4R5, V5, V6, V7		
	01-0014	RCCMD enterprise license			>50 licenses (Windows, Linux, MAC X, OS / 2, UNIX, NOVELL)		

					Sensor connections
USHA+ **Network interface****	04-0210	USHA+ network interface card	Web / SNMP interface ModBus TCP		
Environmental	04-0212	EMD with temperature and humidity sensors	0 °C to +80 °C, ±1 °C 10% to 90% RH, ±3%	2 m cable	
	04-0213	Vibration detector		1 m cable	
	04-0214	Smoke detector			
	04-0215	Door contact detector			
	04-0216	Water leakage detector			
	04-0990	Water leakage detector			

* All CS141 cards / boxes come with one free RCCMD client and a CD containing the monitoring software.
** All USHA+ cards come with RCCMD client and a CD containing the monitoring software.

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abb.com/ups