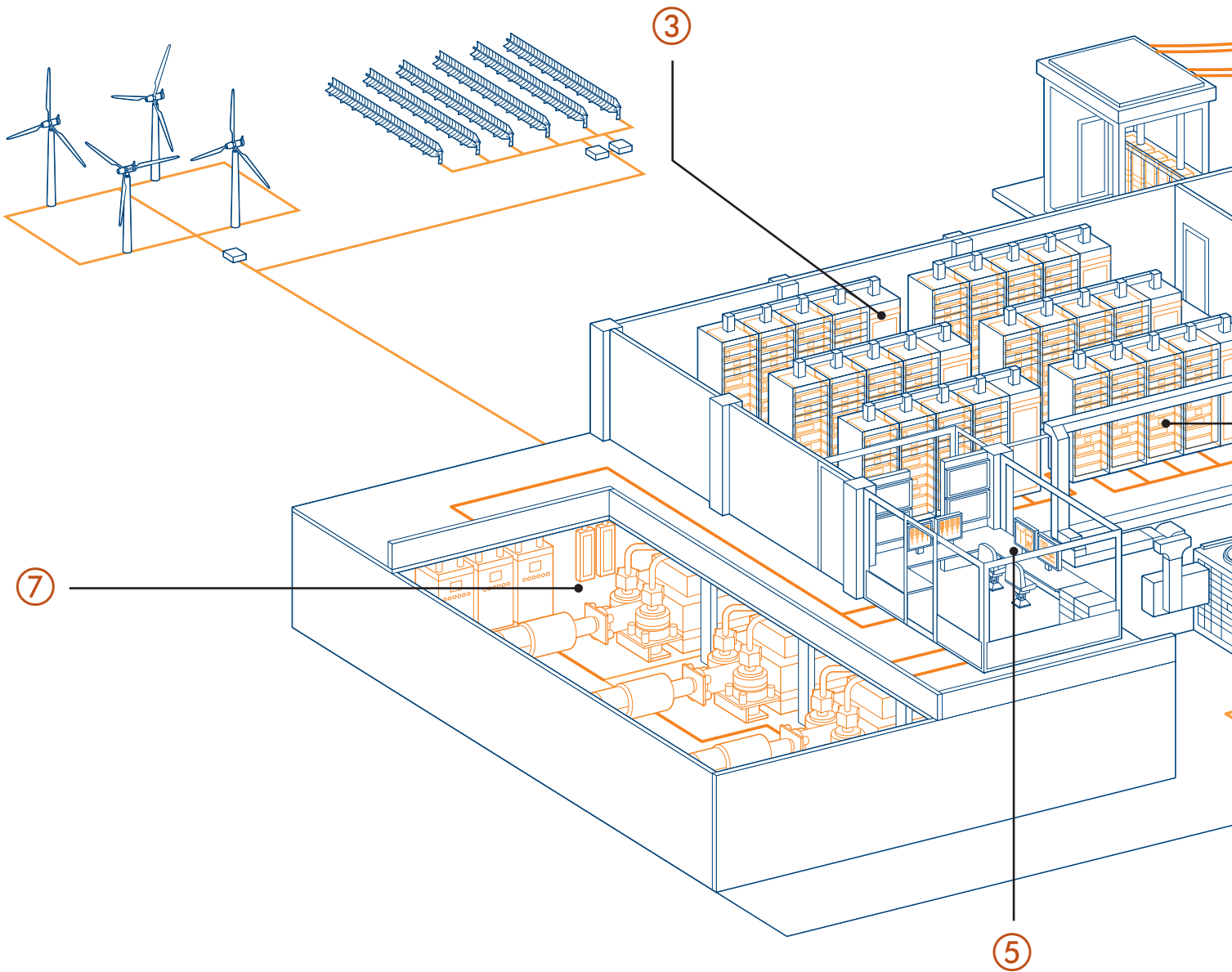




Preconfigured Remote Power Panels
Innovative low voltage power distribution
for data centers applications

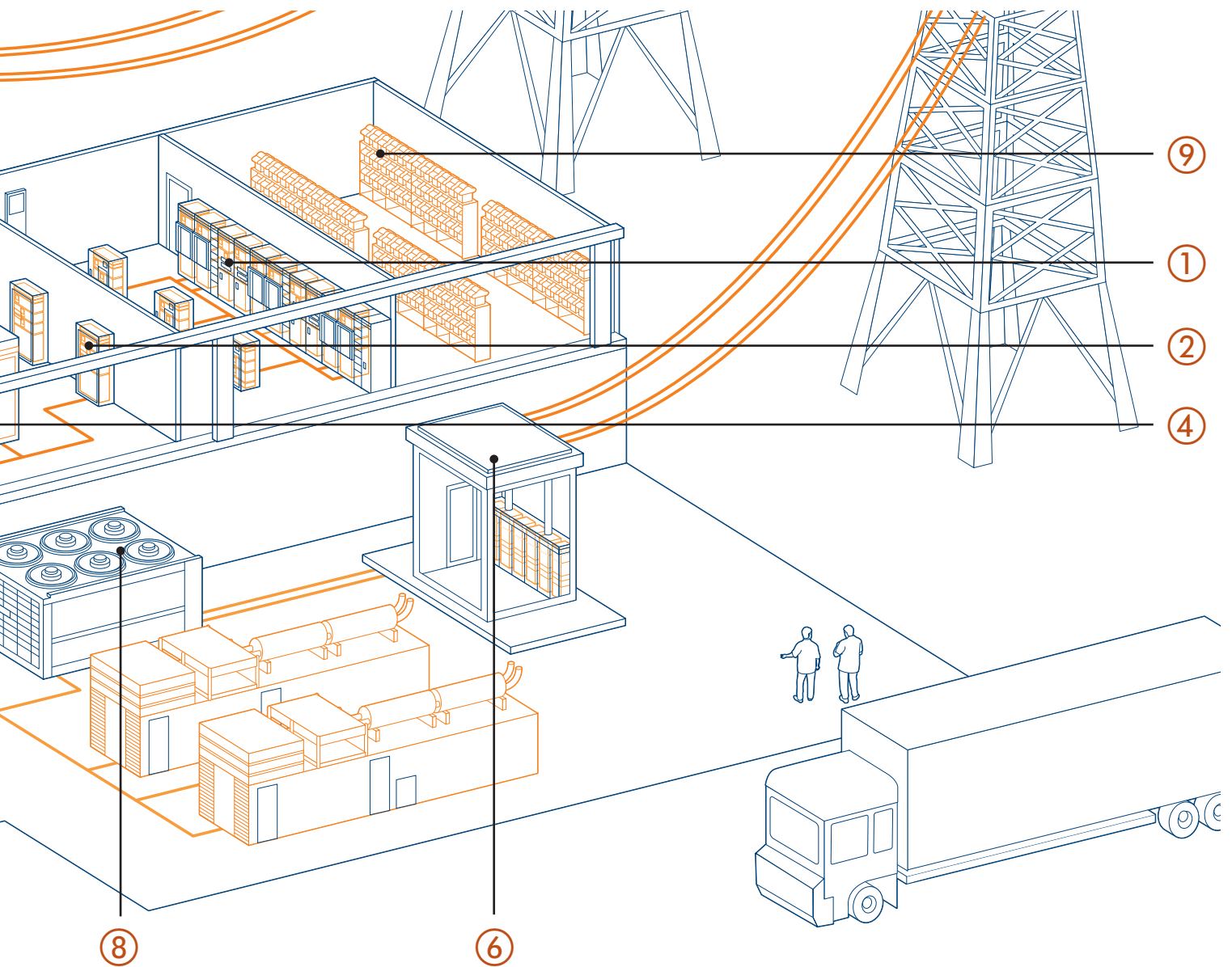


Reliable, efficient and flexible infrastructure for the sustainable profitability of your data center

The data center is the most crucial asset for almost any 21st century enterprises. Therefore it's infrastructure should never be pieced together from commercial grade components. Rather the data center must be viewed as a coordinated, optimized facility that is built to be an intelligent, highly efficient and immensely flexible operation.

ABB's preconfigured Remote Power Panel (RPP) helps to meet the demands of power-intensive applications, delivering unsurpassed power monitoring and distribution with up to 256 branches in a safe, reliable and space-saving footprint.

The RPP is the ideal solution for data center engineers, saving the time for planning and drawing of the RPP. The preconfigured RPP can dramatically reduce the engineering and certification costs and ensure continuous power to critical applications.



1 Low Voltage Main Distribution

- Busbar 6300 A solutions
- Harmonic regulation
- Power factor correction

2 Low Voltage Sub Distribution

- Static transfer switches
- Low-voltage switchgear

3 Remote Power Panel

- Change devices under voltage
- Up to 256 branches with circuit monitoring system (CMS)
- Pre-type tested according to IEC 61439-2
- Reduced footprint by 20%

4 Server Cabinets

- Rack power distribution units
- AC and DC power systems
- Flat pack for easy maintenance

5 Data Center Infrastructure Management (DCIM)

- User interfaces
- External interfaces
- Application modules
- Monitoring and control

6 Substations

- Transformers
- Medium Voltage switchgear
- Energy storage solutions

7 Gensets for Supply Protection

- Automatic voltage regulator (AVR)
- Overload capability (110%)
- Brushless excitation, self-excited
- IEC size 180-500, up to 3750 kVA

8 HVAC Support for Critical Power

- High-efficiency motors
- Low-harmonic, variable frequency drives and inverters
- Automation and control
- Instrumentation

9 Modular UPS Solutions at both Low and Medium Voltage

- Energy storage system
- Rectifiers

Preconfigured Remote Power Panel – Products Inside

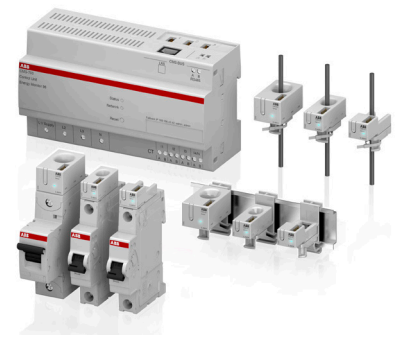
Backup Protection - XT4 Circuit Breaker

Based on backup and selectivity requirements a Molded Case Circuit Breaker (XT4) is used to protect the Sub-Distribution. The rating can go up to 250A per MCCB if parallel incoming is used (see page 2/7 for further instructions). The Backup protection complies with IEC/EN 60898-1 and IEC/EN 60947-2 and allows industrial use. With the integrated COM-Module all voltages, currents, power factors and status data is available through a Modbus RTU interface.



Circuit Monitoring System with Open and Solid Core Sensors

RPP's heart is the Control Unit CMS-700 which aggregates the current readings from the CMS and the Power Quality Values to create consumption data and generate alarms in case of system errors. Together with the sensors it's the most compact, neat and hassle-free branch circuit monitoring system available on the market. Just mounted directly on the SMISLINE Miniature Circuit Breakers and bus wired, there is no need of cumbersome cabling as you know it from typical Current Transformer's star wiring. The new range of open core sensors helps to add branch monitoring into existing installations without the need to power-off the system.



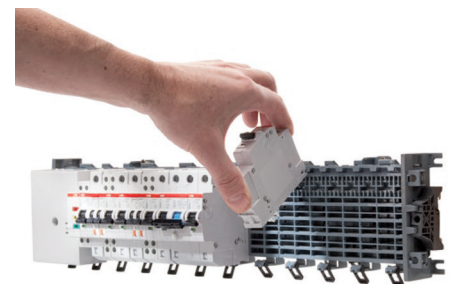
System pro E energy - Sub Distribution Enclosures

ABB's Enclosure Range for sub distribution boards is called pro E energy. It helps the RPP to fit in the vertical SMISLINE modules together with the XT4 molded case circuit breakers at the same time without getting into temperature problems. With a back to back configuration it can replace existing solutions at only 50% of the required footprint of a regular server cabinet.



Touch Proof System - SMISLINE TP

The world's first pluggable and touch proof socket system, SMISLINE TP ensures that load-free devices and components can be safely snapped on and off under voltage without shutting down one single server. In addition maintenance can be done by instructed personnel without electrician's qualification. Moreover you can save 20% space for the typical A/B distribution in a data center. Compared to a conventional build up time of 15 hours of an RPP like this - SMISLINE needs only 8h which allows another 45% of time saving.

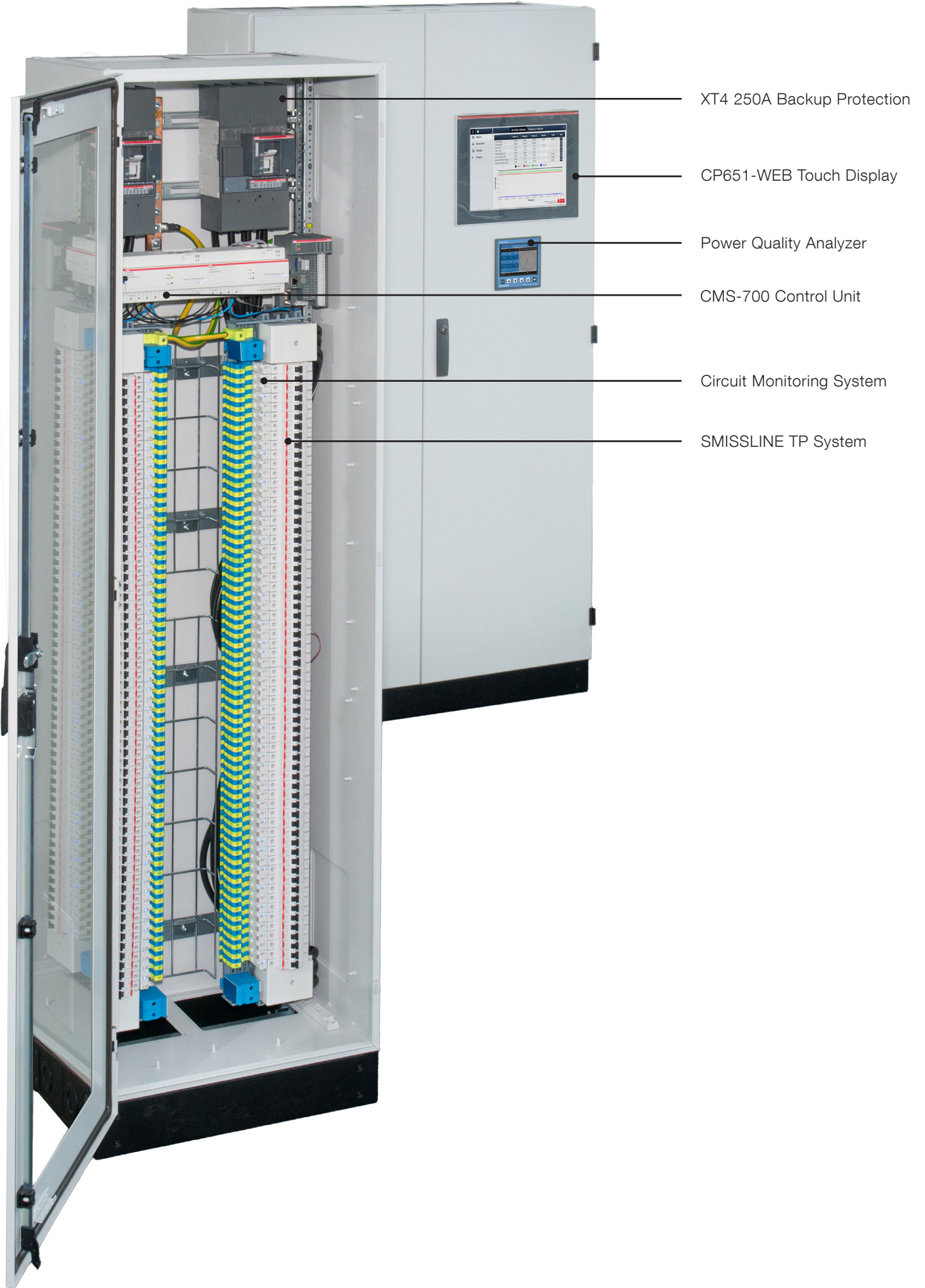


Power Quality Analyzer

The Power Quality Analyzer has a dual function. First, it provides the voltage and power factor reference value to the PLC for calculating the effective power and energy values for the branch circuit. It allows the class III system reports according to DIN EN 61000-2-4 secondly, it provides the following data for the complete RPP:

- Active, reactive and apparent power
- Residual current monitoring
- Voltage quality (DIN EN 50160)
- Frequency and power factor
- Total harmonic distortion





XT4 250A Backup Protection

CP651-WEB Touch Display

Power Quality Analyzer


CMS-700 Control Unit

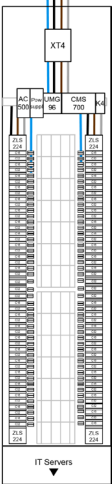
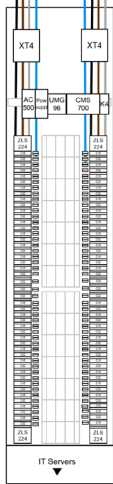
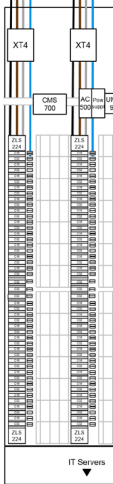
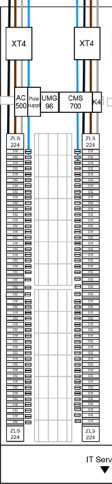
Circuit Monitoring System

SMISLINE TP System

Technical Data

Remote Power Panel families and technical features compared at a glance:		RPP-250A	RPP-500A	RPP-750A	RPP-1000A
Rated current of the ASSEMBLY (InA)		250A	2x250A	3x250A	4x250A
Accuracy	Voltage	±1 %			
	Current	±1 % Full Scale			
Number of branch circuits per system		128	128	192	256
	with remote tripping indication	84	84	128	170
Operating temperature		-25 .. +70 °C			
Storage temperature		-40 .. +85 °C			
Rated operational voltage		240/415 VAC			
Communication	CMS-700 Control Unit	Modbus RTU (RS485); Modbus TCP/IP; SNMP v1/2 and SNMP v3			
Display		Integrated Webserver; Optional Front Door Display			
Dimensions (mm)	H x W x D	1850/550/350	1850/550/350	1850/800/350	1850/1050/350

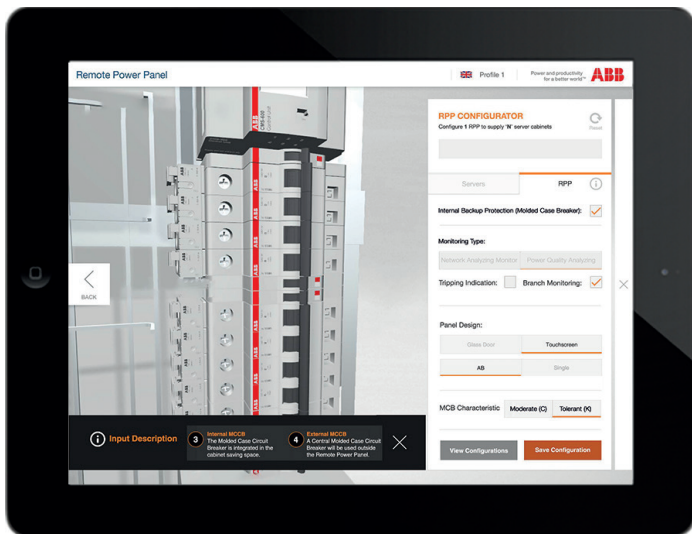


International type numbering of ABB data center solutions

Example type number: RPP-250AP-INT-TL-PQM-NO-CMS-RTI-EE

Electrical Specification			Monitoring Type				Features	
Input Current	Protection	MCCB placement	Display	Power and Network Analyzing			Options	Enclosure
				Power	Network	Branch		
250A	P=Single Phase	INT=internal	NO	NO	NO	CMS=Circuit Monitoring System	RTI=Remote Tripping Indication	EP= Pro E Power at 680 mm depth
500A	PN=Phase and Neutral	EXT=external	IS=UMG96	PQS=UMG 508	Incoming Current Monitoring		M = MID meter	EE= Pro E Energy at 350 mm depth
750A		SNG=single line	TS=CP635	PQM=UMG 511	M2M=Network Analyzer		G = Modbus gateway	
1000A			TM=CP651	PQL=UMG 512			D = EKIP display	
			TL=CP676				L = EKIP LED meter	



Data Centers 3D by ABB Ltd.

- Choose a preconfigured solution
- Get a free email with:
 - individual bill of material
 - Pre-type test (IEC/EN 60947-2)
 - Wiring diagram for fast installation
 - Get a quote for ABB products in your country

Branch Monitoring - Made Easy

After commissioning the hardware you don't need any additional software or programming skills to get the Current Measurement System running. The optional front door display allows to monitor multiple control units simultaneously by mapping their IP addresses. Event handling, historic values with graphical visualization and automated export features of all measured values are just some of the features that come with the new Control Unit CMS-700 for ABB's Circuit Monitoring System.

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