

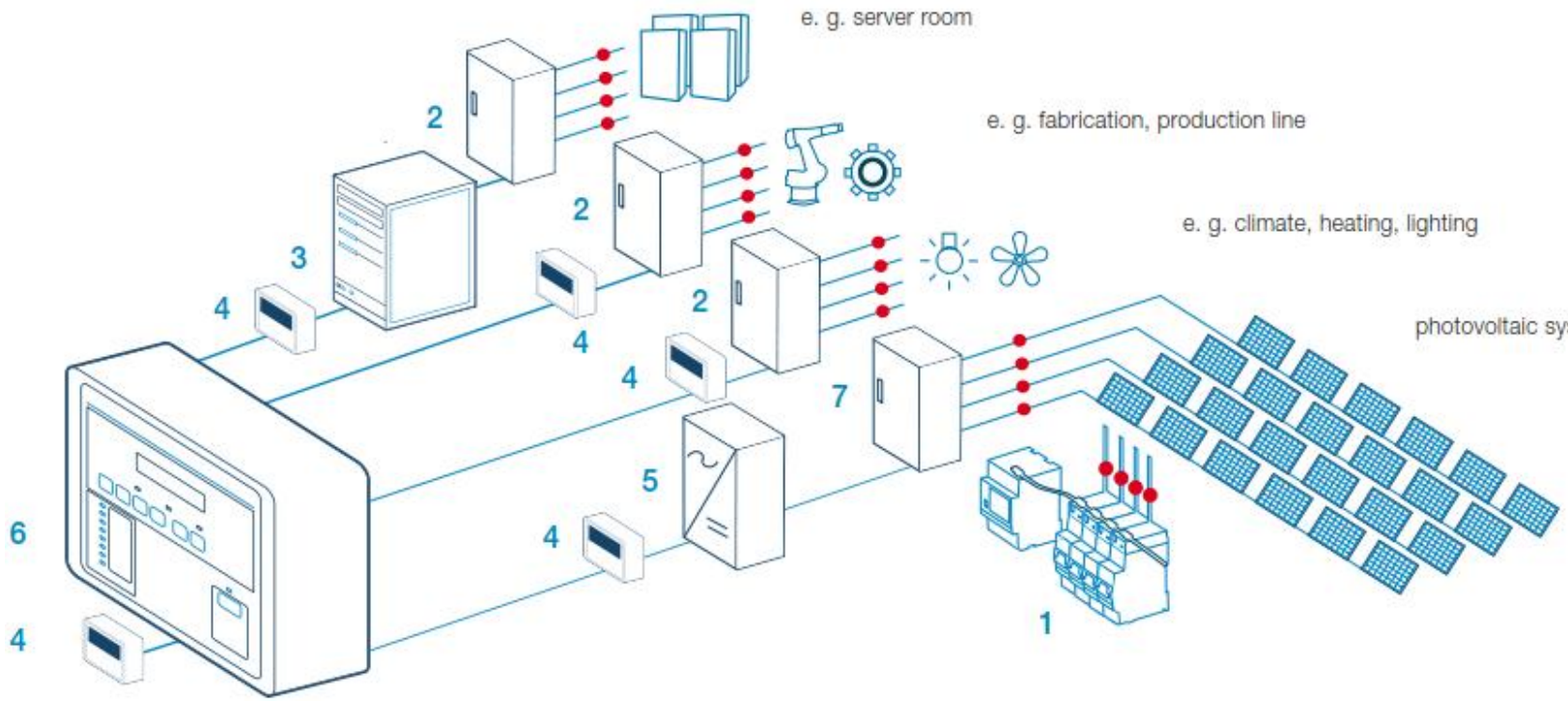
Mason, EPBP, Aug 2016

CMS-700
Branch Circuit Monitoring in Critical Installation

© ABB

Power and productivity
for a better world™

CMS
Circuit Monitoring System



1 CMS (● measurement points)
2 Subdistribution
3 UPS system
4 Energy meters
5 Power inverter
6 Main distribution
7 Combiner box

© ABB

CMS-600
Circuit Monitoring System



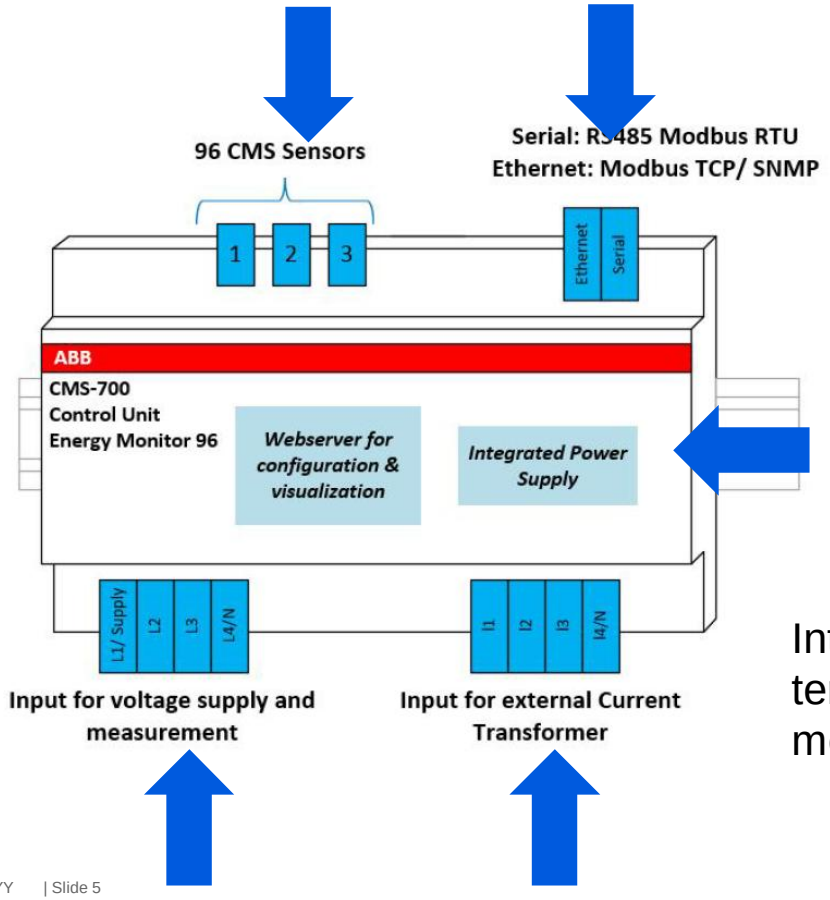
© ABB

CMS-700
Circuit Monitoring System



© ABB

Features



1x Channel supports 32 CMS CT

3x Channel supports 96 CMS CT

RS 486 Modbus RTU

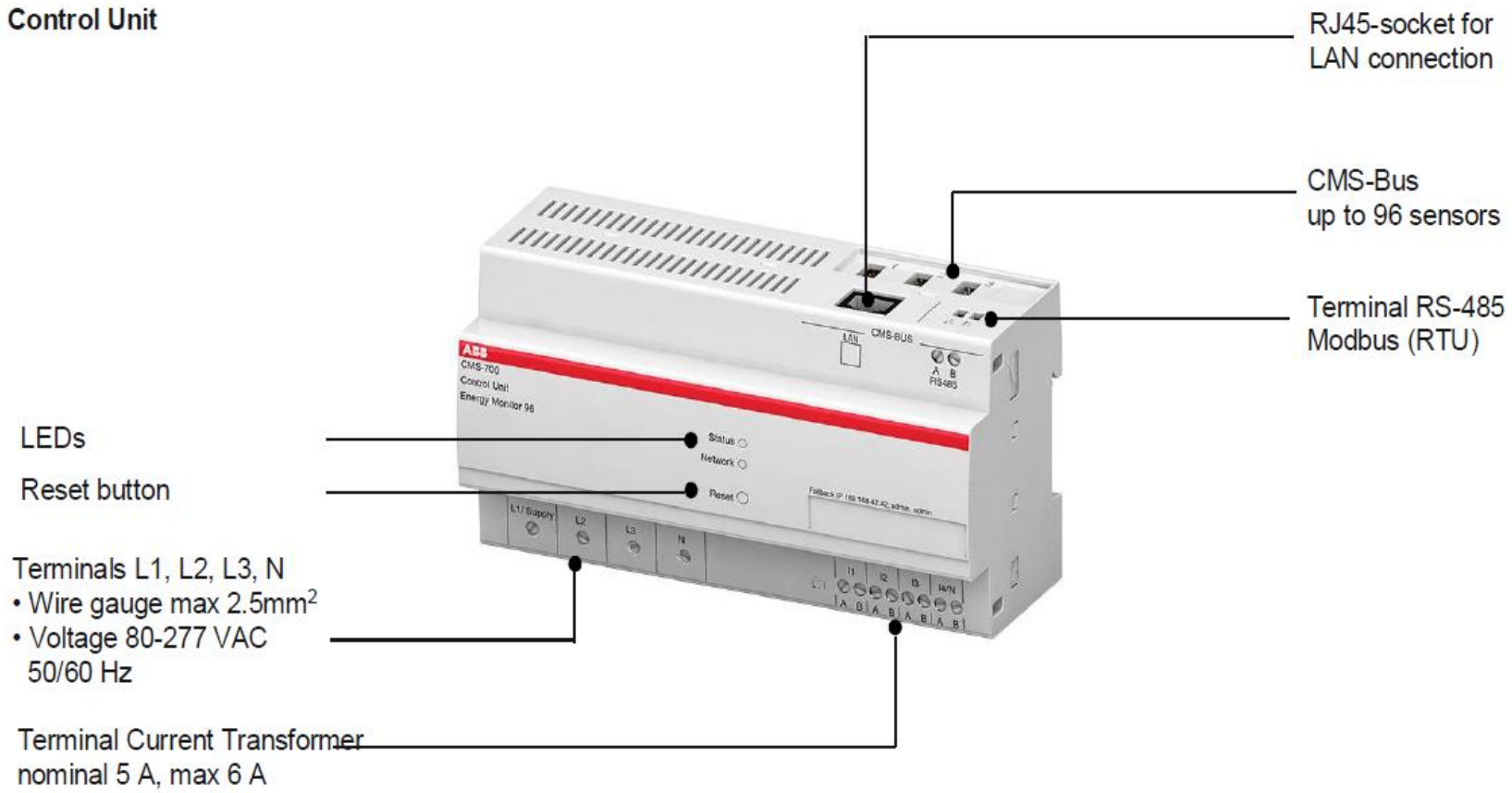
Can be linked to BMS like previous CMS-600 Eqmeter, PM, PQM

Integrated DC Power supply. No need additional wiring and installation

Integrated Voltage and Current measurement terminals for Active Power, Active Energy measurement up to 96 CMS CT branches.

© ABB

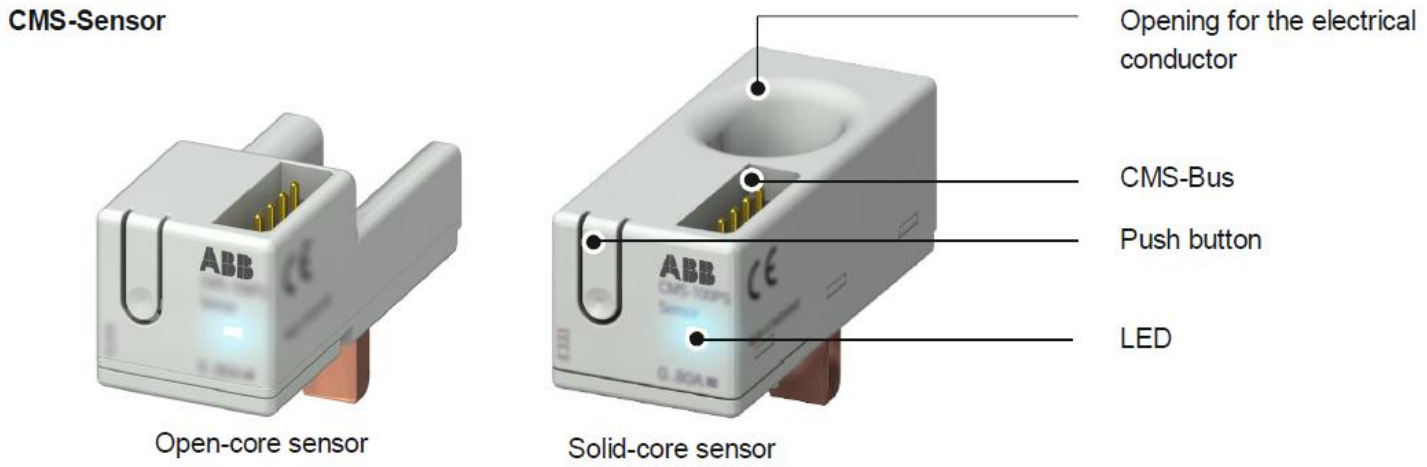
Overall Outlook
Terminals, LED and Buttons



Can be used for Single Phase (L1 N) or Three phase (L1 L2 L3 N).

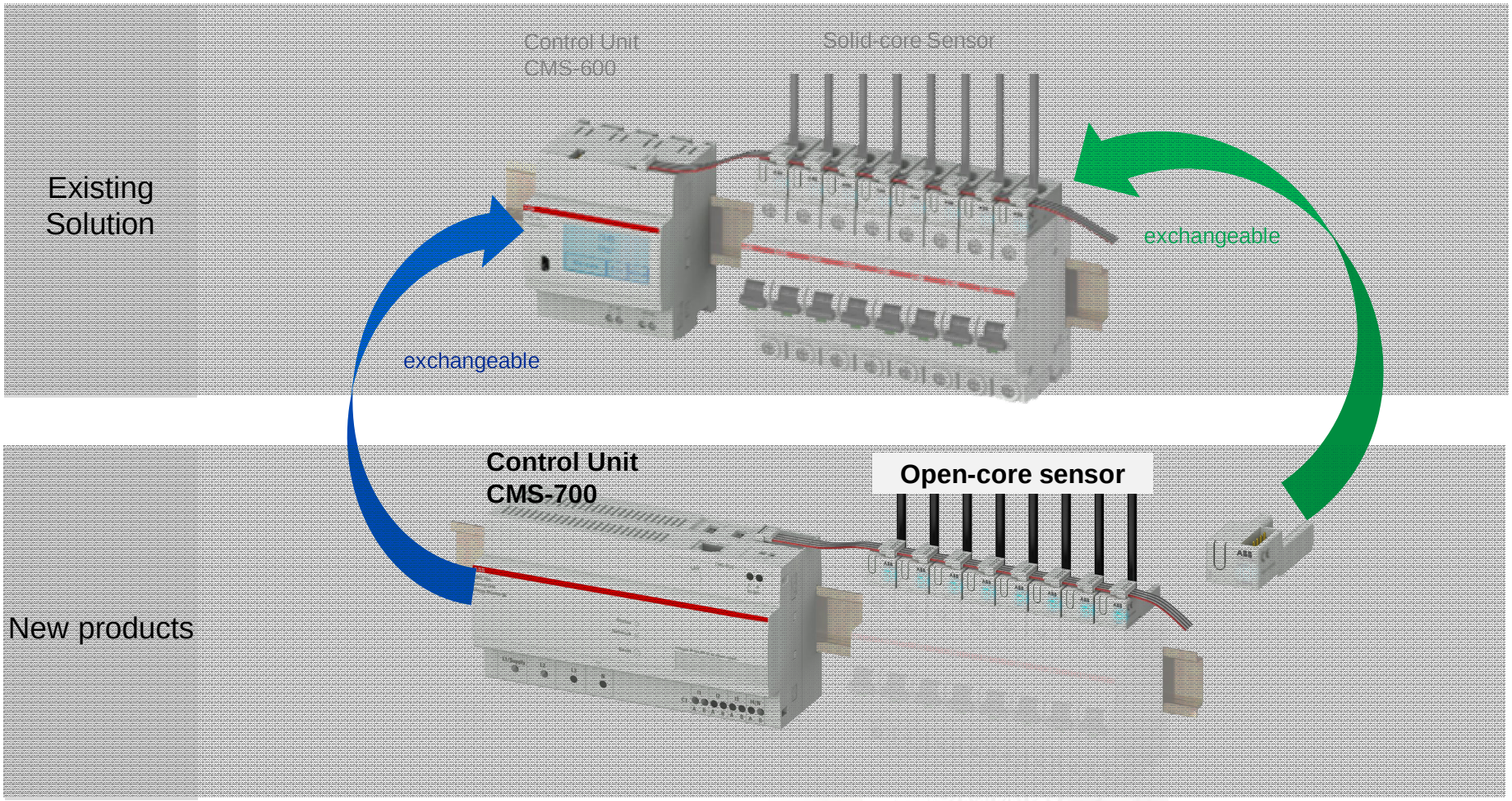
© ABB

Overall Outlook
CMS CT



Compatibility to Existing CT range, Open Core and Solid Core CT Sensor

CMS
System Overview



Sensor portfolio
Mounting options







System pro *M*, SMISSLINE installation
CMS-120PS and CMS-100PS series sensors can be mounted on all ABB installation devices with twin terminals.

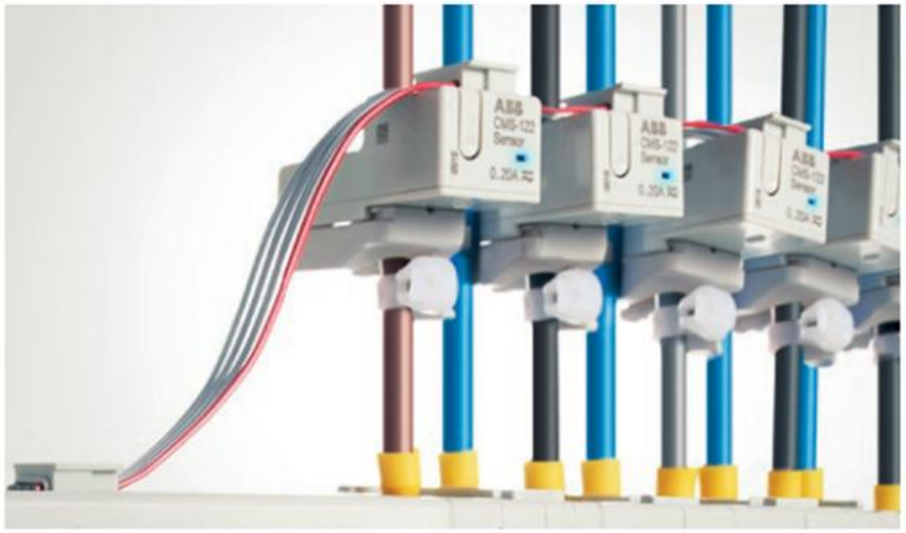


Installation on S800 installation devices
CMS-100S8 and CMS-200S8 series sensors can be mounted on all S800 high performance circuit breakers with cage terminals.

© ABB

Sensor portfolio
Mounting options







Mounting on a DIN rail

CMS-120DR, CMS-100DR, and CMS-200DR series sensors can be mounted on all DIN rails with the aid of a DIN rail mounting.



Cable tie mounting

If space is at a real premium, CMS-120CA, CMS-100CA, and CMS-200CA series sensors can be secured directly to the cable(s) to be measured by means of cable ties.

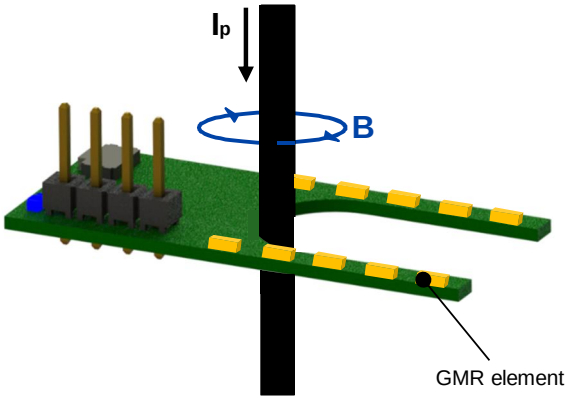
© ABB

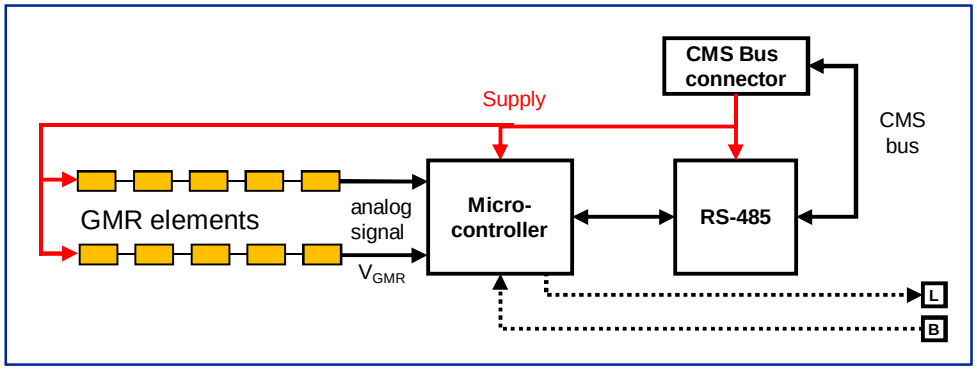
Open-core sensor
Technical key features

	Solid-core sensor	Open-core sensor
Varieties	 ▪ Hall effect technology ▪ 18 mm wide unit, measurement range up to 80A ▪ 25 mm wide unit, measurement range up to 160A ▪ New installation	 ▪ Giant Magneto Resistance technology ▪ 18 mm wide unit, measurement range up to 80A ▪ Easy and fast installation, without power interruption ▪ Retrofit and new installation **NEW**

Similarities	▪ Current types: AC, DC, mixed currents ▪ Every sensor has its own signal microprocessor to transmit signals digitally ▪ Digital measurement values transmitted via CMS-Bus to Control Unit

Open-core sensor
Technology





The **g**iant **m**agneto**r**esistance (GMR) effect has revolutionized the data storage industry with the magnetic read head in hard disk drives – commercial use since 1997. This effect is based on a quantum mechanical effect which occur at thin physical layer of ferromagnetic and non-magnetic materials.

The open-core sensor is based on the GMR effect. The sensor measures direct, alternating and mixed currents.

The current flowing through a conductor generates a magnetic field. The GMR sensor elements detects the magnetic field and generates a voltage V_{GMR}. The microcontroller processes this analog signal and transfers it as a digital value on the CMS bus.

© ABB

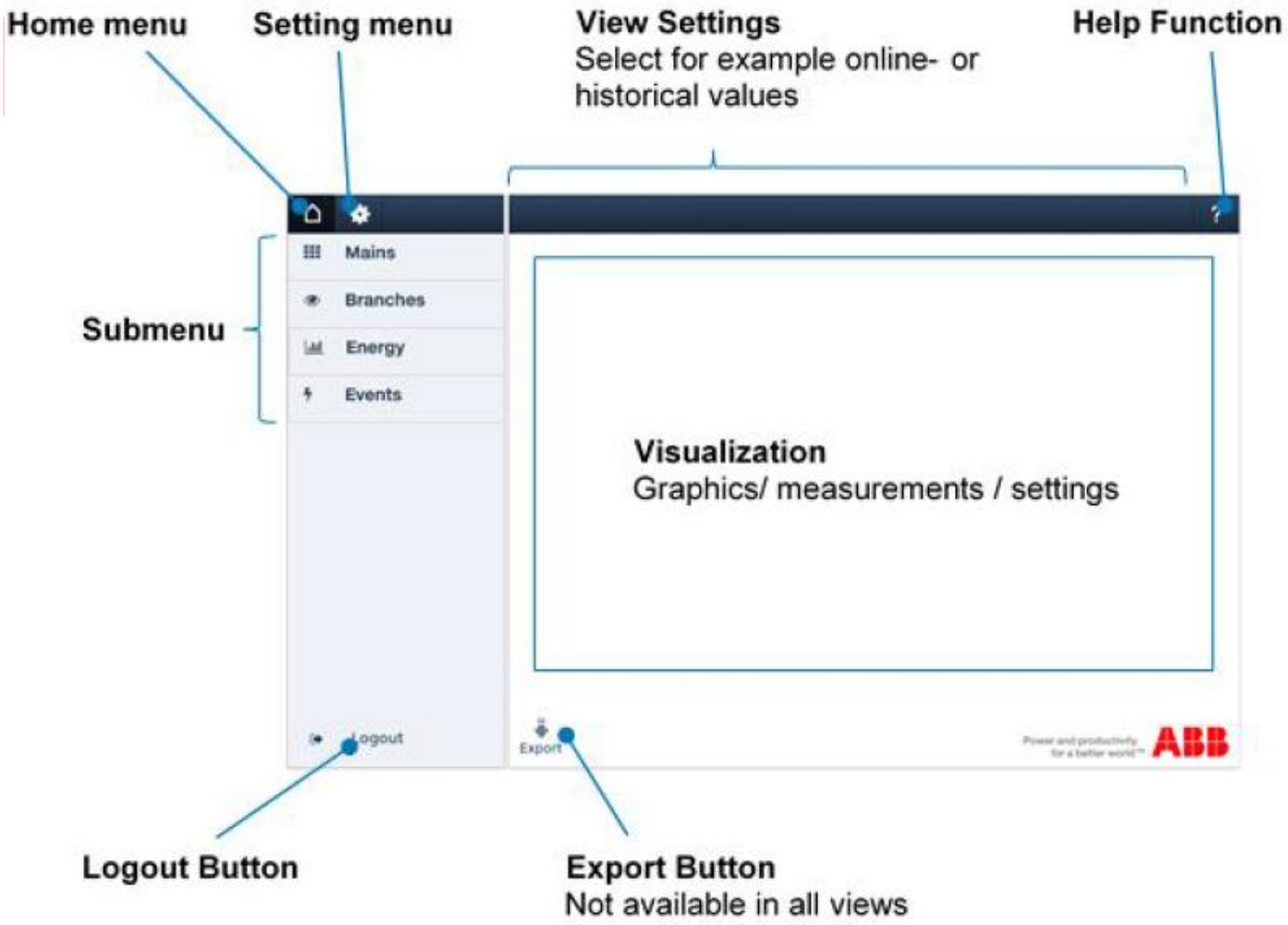
Open-core sensor
Benefits

ABB Company Confidential

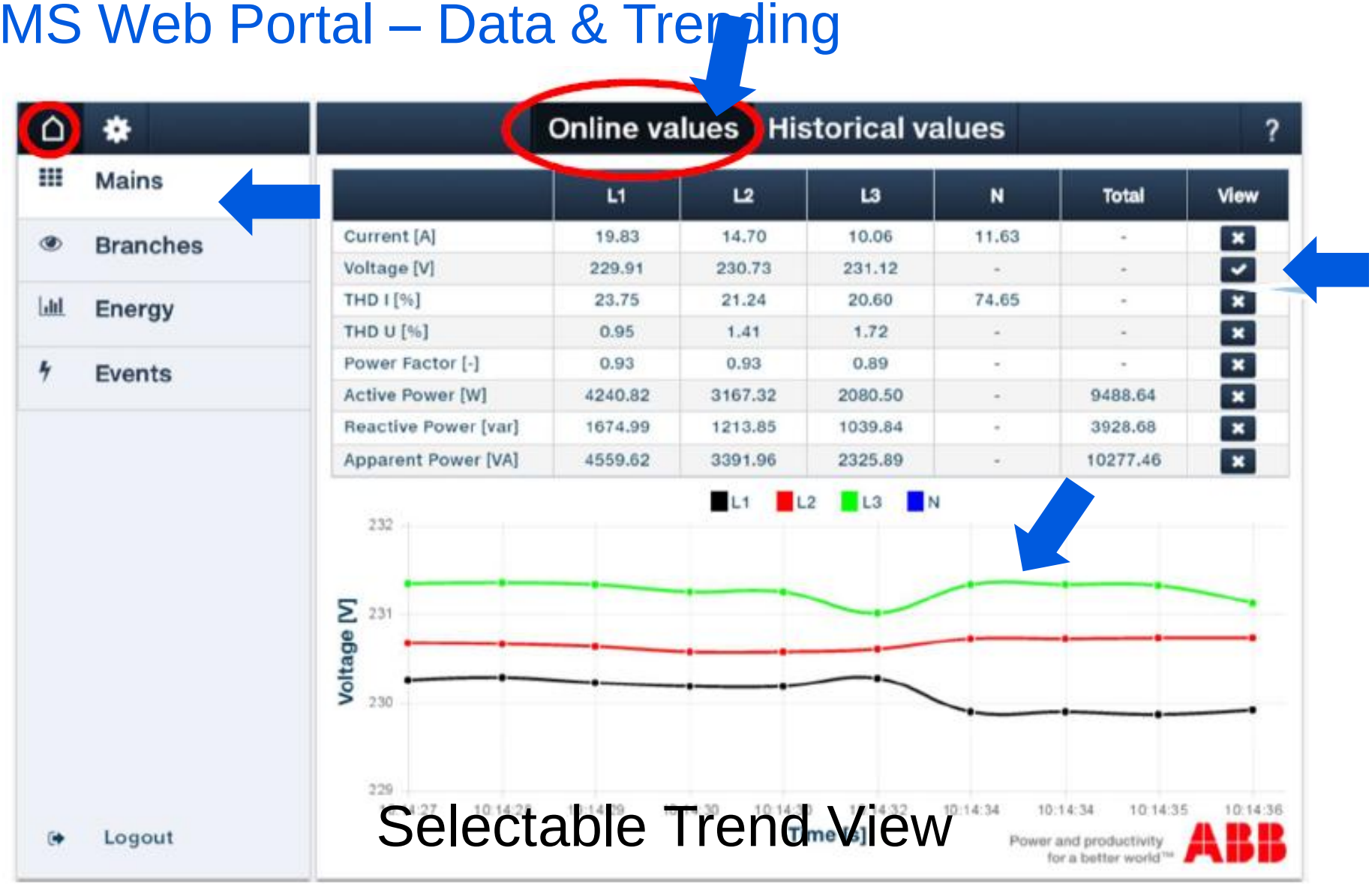
+ Minimum space requirement
+ Very simple installation
+ User-friendly commissioning
+ One sensor for all types of current
+ Always retrofittable and upgradeable
+ Maximum reliability

+ Fills a gap in retrofittable installations
+ Unique innovative solution to renew customer
+ Commissioning without rearranging the existing installation or interrupting the power to the loads

Overall Outlook
CMS Web Portal



Overall Outlook
CMS Web Portal – Data & Trending

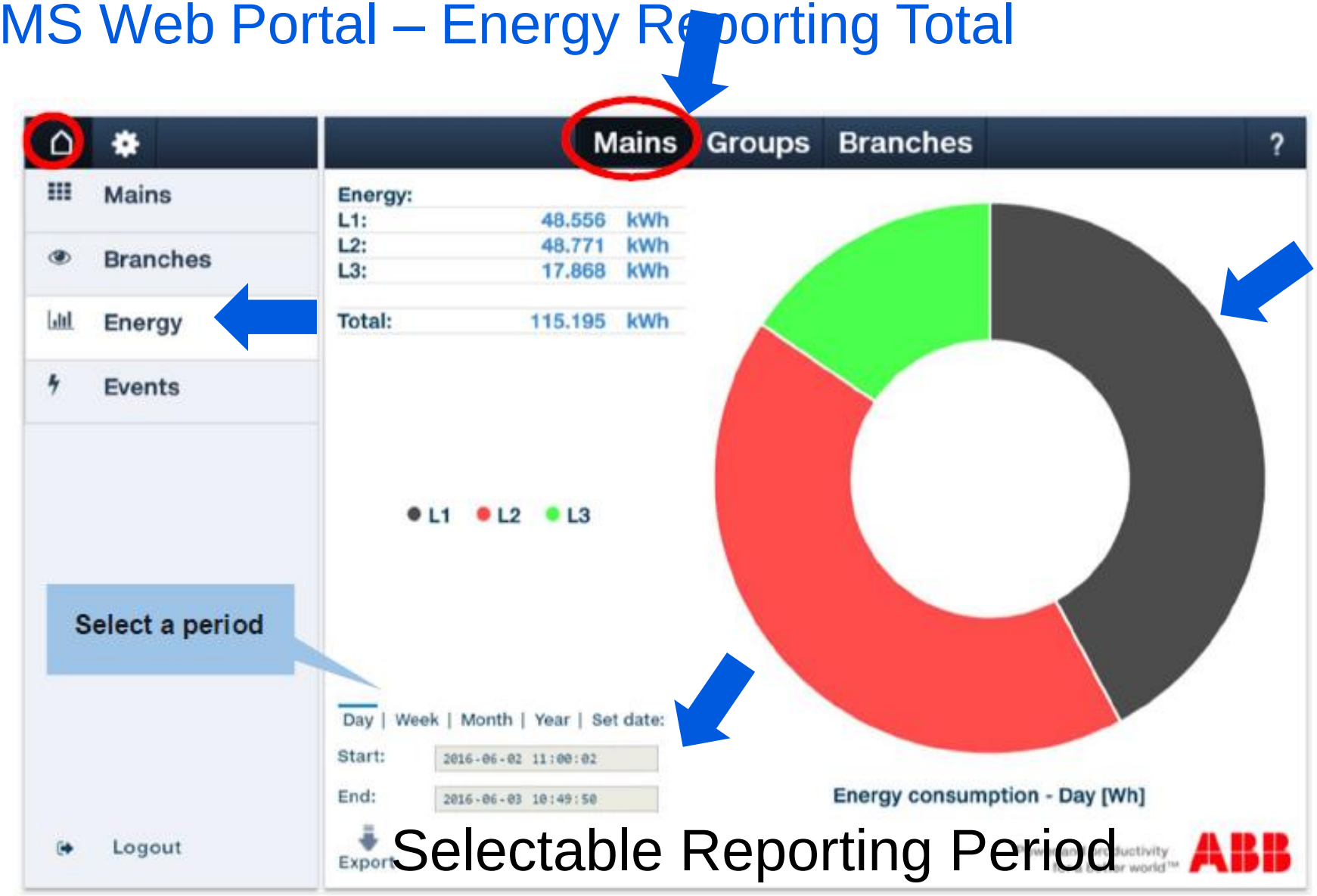


Selectable Trend View

Overall Outlook
CMS Web Portal – Data & Trending



Overall Outlook
CMS Web Portal – Energy Reporting Total



Power and productivity
for a better world™

