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# Shaping the world of Data Center

Shahrukh Ashhar



**ABB**



has been pushing the boundaries of technology for +130 years

### Electrification



### Motion



### Process Automation



### Robotics & Discrete Automation



IEC LV Motors  
Large Motors & Generators  
Drive Products  
Systems Drives

Process Industries  
Energy Industries  
Marine & ports  
Measurement and Analysis

Robotics  
Machine Automation

### Distribution Solutions



Medium and low voltage control & protection products, systems & switchgear, automation & services

### Smart Power



Low voltage breakers & switches, enclosures, motor starter application, power protection

### Smart Buildings



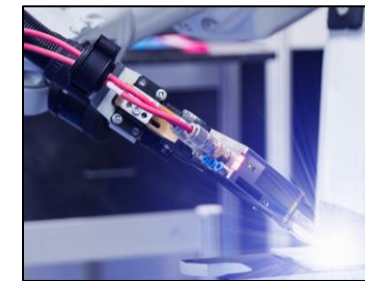
Miniature breakers, distribution enclosures, wiring accessories, building automation

### Installation Products



Wire & cable management and protection, termination, medium voltage for utilities, conduits and many more

### Power Conversion



Power conversion products including embedded power products, DC power solutions and services

### E-mobility

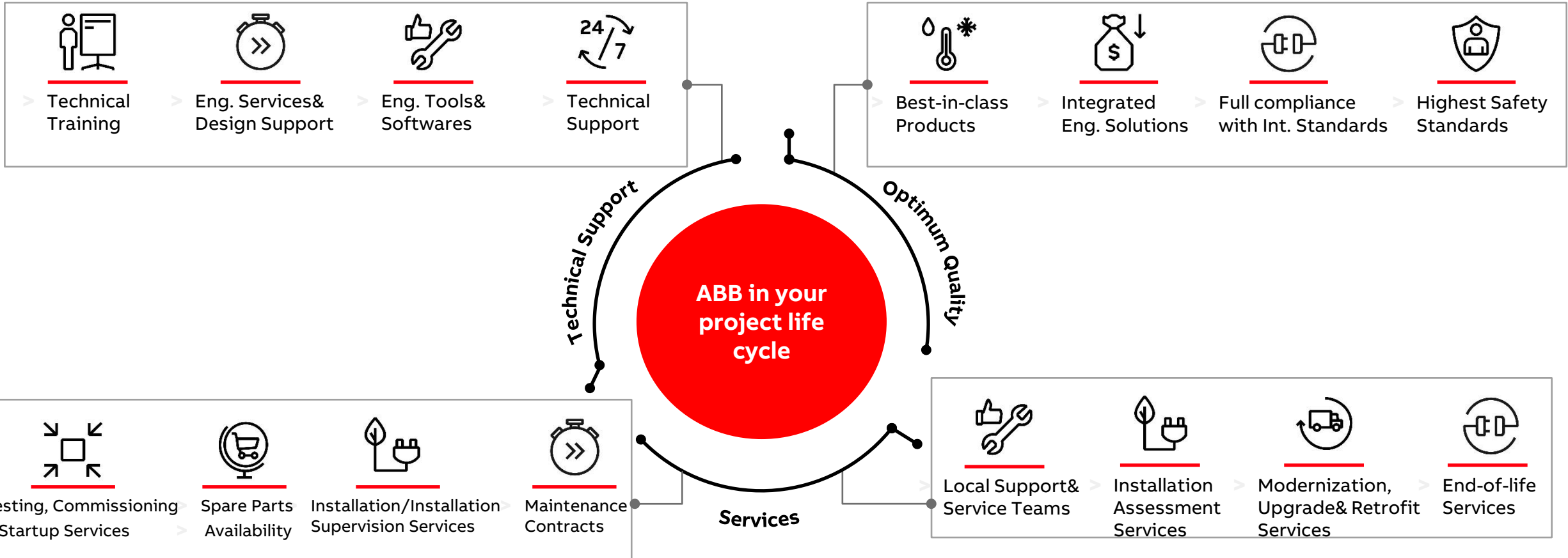


DC fast and high-power chargers

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# ABB Technical Services

# ABB, not just a vendor.....



## ABB Engineering/Design Support Services to Consultants/Designers/End Users:

- Review of project Design/Specifications and provide recommendations for design improvement
- Estimate electrical equipment dimensions and electrical room requirements
- Check for compliance with Local/regulatory requirements
- Advise latest specifications for each product/system as per the latest technology in the market
- Provide sizing calculations of electrical equipment
- Provide any technical info/clarifications related to ABB products/systems
- Provide technical training to consultants, end users, and contractors

<b>Medium Voltage (MV) Systems:</b>	<b>Low Voltage (LV) Systems:</b>
MV Switchgears	LV Switchboards and panelboards
Ring Main Units (RMU's)	LV Automatic/Manual Transfer Switches Solutions/Panels
Compact Substations (CSS), Prefabricated Substations (E-Houses) and Mobile Substations	LV Busbar Trunking (Busway/Busduct) Systems
Protection Relays and Smart Substation Systems	LV Disconnect/Safety switches
Arc Flash detection/protection systems	Energy metering, monitoring, and billing systems
<b>Low Current (LC) Systems:</b>	<b>Other Systems:</b>
Building Management Systems (BMS)	UPS (Uninterruptable Power Supply) systems
Door Entry/Access Control Systems	Electrical Vehicle Chargers
Wiring Devices/Accessories	Earthing/Lightning Systems
Emergency Lighting/Central Battery Systems (CBS)	Power/Energy Management Systems, SCADA Systems
	Predictive maintenance/asset health services

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# Tools for customers

**ABB Datacenter Webpage:** [ABB Canada | Data Centers](#)

**ABB Datacenter Interactive Tool:** [Data Center \(abbdatacenter.com\)](#)

**ABB count on us:** [ABB Canada | Electrical Distribution, Control and Power Solutions](#)

**ABB Datacenter Line card:** [Data Center Solutions – Colocations, Hyperscales and Enterprise \(abb.com\)](#)

**ABB Datacenter Applications:** [Applications for Data Centers \(abb.com\)](#)

**ABB ROI calculator:** [ABB ABILITY™ ENERGY AND ASSET MANAGER ROI CALCULATOR \(escapenet.info\)](#)

**Server Room Sub-Distribution Configurator:** [Server Room Sub-Distribution Configurator - Server room solutions | ABB](#)

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# Products & Solutions

Overview

# ABB Solutions

## LV Power Distribution

- LV switchgear
- LV Switchboards
- Electronic relays & controls
- Busway
- Arc flash protection
- LV MCC
- LV Power and lighting panels
- Meter, monitoring & signaling

## Power Protection

- Uninterruptable Power Supplies (UPS)
- Automatic Transfer Switches (ATS)

## Installation Products

- Cable tray
- Fiber tray
- Cable and wire management
- Grounding and bonding systems
- Mechanical and compression wire termination
- Fittings

## Cooling system components

- Variable frequency drives
- High efficiency motors
- Enclosed breakers & switches

## MV Primary & Secondary Distribution

- AIS & GIS MV switchgear
- AIS & GIS Ring Main Units
- Protection relays
- Protection & safety
- Control systems

## ABB Ability Digital Data Center Operations

- Data Center automation
- Electrical power management system
- Asset management
- Smart building solutions
- Condition monitoring

## Service & support

- Installation & commissioning
- Consulting services (engineering studies)
- Retrofits and upgrades
- Digital upgrades

## Other capabilities

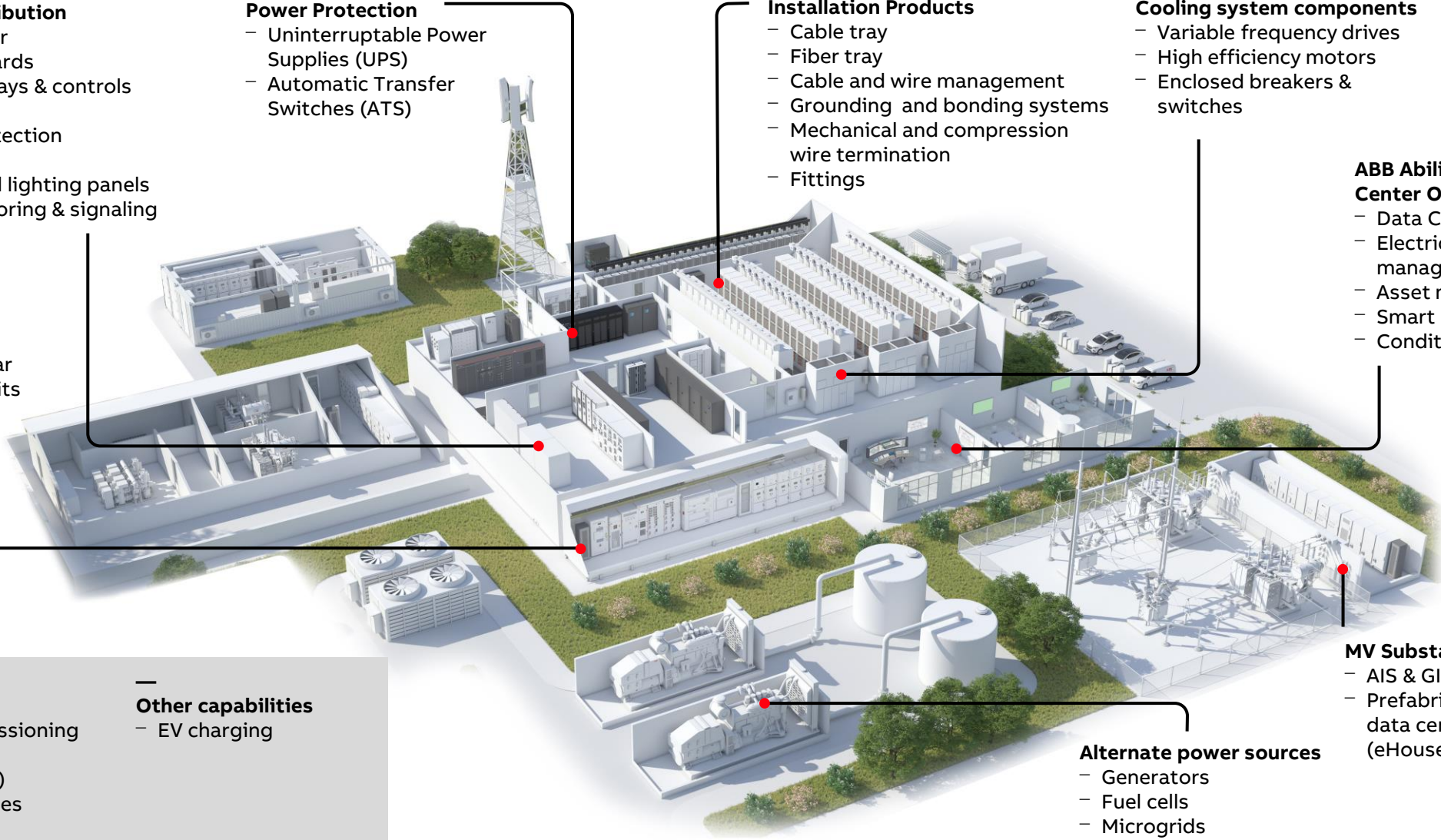
- EV charging

## MV Substations

- AIS & GIS switchgear
- Prefabricated modular data center solutions (eHouses & skids)

## Alternate power sources

- Generators
- Fuel cells
- Microgrids
- Renewable integration





# MV Metal Enclosed LIS (Load Interrupter Switchgear)

BreakMaster and BreakMaster V



**BreakMaster**  
- Fused LIS



**BreakMaster V**  
- Switch + breaker  
- Enables arc flash mitigation

## Main Features/Ratings

- Voltages 5/15 kV applications.
- Typical use: Transformer primary or cable protection.
- ANSI C37.20.3, C37.20.4, C37.22
- ASCE 7-10, IBC 2019, CBC 2019, and IEEE-693-2018 seismic certification
- Single, Duplex, Selector, Lineup, ATS, Lineup with Utility, Single-VCB, Lineup-VCB offerings.
- U/cUL option available
- NEMA 1, 2 or 3R enclosure available

## Safety options

- Arc flash mitigation in BreakMaster V™ 87B, 50/51, optical.
- IR Ports.
- Blown fuse monitoring.
- Remote status monitoring.

# Medium Voltage MCC



SafeGear MCC



UniGear MCC

Product Name	Voltage Class (kV)		Maximum Main Bus (A)	Short Circuit (kA)	Arc-resistant
	7.2	15			
SafeGear MCC	x		3000	50 (Bus and Ground)	Type 2B
Unigear MCC**	x	X	4000	50	IAC AFLR

\*\*CSA Certification Required

Standard	Unit	Name
Construction type		Metal Clad
Arc Resistant Rating	(kA)	50 (0.5 seconds or 30 cycles)
Arc Resistant Accessibility type		Type 2B
Enclosure type		NEMA 1 & NEMA 1 (Gasketed)
Rated voltage	(kV)	Up to 7.2
Insulation Level / Power Frequency / Lighting Impulse BIL	(kV)	20 / 60
Rated frequency	(Hz)	60
Rated main bus current	(A)	1250, 2000 or 3000
Short-time withstand current (Main & ground bus)	(kA)	50 (2 seconds)
Rated contactor current	(A)	400, 720*
Maximum ambient temperature	(°C)	40
Seismically qualified by analysis		IBC-2012 & ASCE 7-10, IEEE 693-2005 = Inherently Acceptable

# LV ANSI Switchgear - Portfolio Management

Non-arc resistant and arc-resistant switchgear



## ReliaGear LV SG®

- 3P3W and 3P4W – 600/347 Vac, 480/277 Vac
- Fully rated 100 KAIC at 600/347 Vac, 480/277 Vac and 208/120 Vac
- Main circuit breakers: up to 6000 A
- Main bus: up to 8000 A
- Air circuit breakers: 250–6000 A
- UL1558 and CSA C22.2 No.31 compliant
- Enclosures: NEMA Type 1 and 3R
- Seismic ratings: 1.33g sds a z/h of 1 CBC-2019/IBC-2018
- Depths: 54-74 inches
- Widths: 15 - 22 – 30 - 38 inches



## MNS SG AR

- Up to 4000 A
- 100 kAIC @ 480 V, 85 kAIC @ 600 V
- Emax 2 breakers
- UL-1558 equipment and UL-1066 breakers
- IEEE C37.20.7 Type 2B arc-resistant
- Enclosure: NEMA Type 1
- ABS certified
- Plenum and plenum-less (with chimney) design available

# LV Switchboard

## ReliaGear SB

### Voltages

- 3P3W – 240 V, 480 V, 600 V
- 3P4W – 208/120 V, 480/277 V, 600/347 V

### Main bus

- 400, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, and 6000 amperes
- Copper (6000 A), Aluminum (4000 A)
- Copper bus stack
- Bracing – 65, 100, 150, and 200 kAIC

### Main circuit breakers and switches

- Emax 2 (power circuit breaker): 6000 A max
- PowerBreak II (insulated case circuit breaker): 4000 A max
- HPC II (high pressure contact fused switch): 4000 A max

### Feeder circuit breakers

- Individually mounted:
  - Emax 2: 6000 A max
  - PowerBreak II: 4000 A max

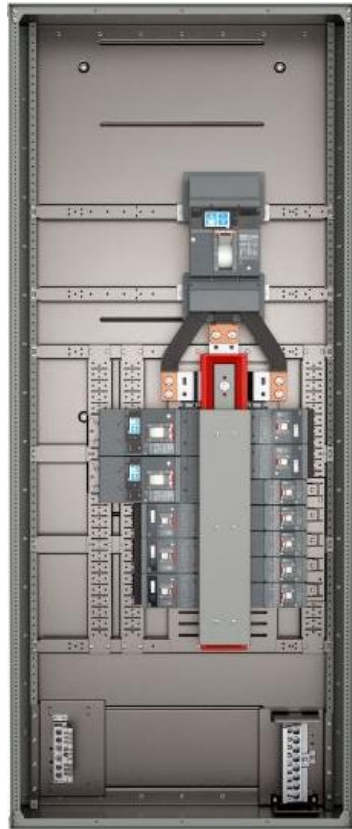
### NEMA 1, 3R, drip-proof option



# ABB Distribution and Lighting Panelboards

## At a Glance

### Reliagear next - Distribution Panel



- 3P3W & 3P4W – 600V, 480V, 240V, 600/347V, 480/277V, 208/120V
- 1P3W 120/240V
- Fully rated 200KAIC at 240Vac, 100KAIC at 480Vac, 65kA at 600Vac
- Main circuit breakers and switches: up to 1200A; horizontal or vertical
- Main lugs: 250A–1200A
- Plug-in branch circuit breakers: 15–1200A
- Enclosures: NEMA Type 1, 2, 3R, 4/4X, 12

### Reliagear - Lighting Panel



- Fully Rated - 65KAIC at 240V, 65KAIC at 480/277Vac, 65KAIC at 600Vac
- Voltage 120V AC upto 600V AC and DC ratings are also available.
- Series Rated –DET-0008
- Main Circuit Breakers: 100A – 600A
- Main Lugs: 125A-600A
- Branch Circuit Breakers: 15 – 100/125A
  - RQ –15-100A THQB
  - RL --15-100A THQL
  - RE -- 15-100A TEY
  - RS – 15-125A TEYD/H/L
- Enclosures:
  - NEMA Type 1, 3R, 4/4X, 12
  - 20" wide (30" wide options for increased access to gutter space)
- Main metering available
- **Subfeeds: 125A- 600A (up to five subfeed breakers!)**

# Low Voltage Motor Control Centers

## Product Portfolio

### ReliaGear LV MCC – Non-Arc Res

- **Flagship MCC, fully featured**
- 3P3W and 3P4W
- 50 Hz or 60Hz
- 100 KAIC @ 480V
- 50 KAIC @ 600V
- Optional retractable stabs (closed door racking)
- Up to 200HP (@600V), 350HP (@480V) integrated ACS580 VFD's with harmonic filtering, bypass, isolation
- Up to 3200A main bus
- NEMA 1/HG, 2, 3R NWI (non-walk-in), Type 12








### MNS MCC – Arc Res and Non-Arc Res

- **Heavy Industrial, AR MCC**
- 3P3W and 3P4W
- 60 Hz
- 100 KAIC @ 480V
- 100 KAIC @ 600V
- Withdrawable units
- Disconnecting power and control terminal blocks
- Up to 250HP ACS880 VFD's
- Up to 4000A main bus (3200A MCB)
- Arc Resistant: 1200A, 1600A, 2500A
- NEMA 1, type 2 Arc Resistant, 480/600VAC , 65 kA



# ABB Power Protection

	1ph UPS	3ph UPS - Standalone	3ph UPS - Modular	High-power UPS	Medium Voltage UPS
IEC offering	PowerValue 11LI 600-2000 VA PowerValue 11T G2 1-10 kVA PowerValue 11RT G2 1-10 kVA PowerValue 11/31T 10-20 kVA	PowerScale 33 10-50kVA PowerWave 33 60-500 kW TLE Series 200-400 kW SG Series 10-500 kVA	DPA UPScale 10-200 kW DPA 250 S4 50-300 kW DPA 500 100 – 500kW	MegaFlex DPA 1 – 1.5 MW	HiPerGuard MV UPS 2.25 MVA 7.2 kV (6 - 6.6 kV) 12 kV (10 – 11 kV) 24 kV (20 – 24kV)
<b>cUL/CSA listed offering</b>	<i>PowerValue 11RT G2 1-3 kVA*</i> <i>PowerValue 11RT G2 5-10 kVA*</i> GT series UL 5-10 kVA	TLE Scalable 40-150 kW TLE Series 160-1000 kW	<i>DPA 60 (20-60kW)*</i> <i>DPA 120 (20-120 kW)*</i> <b>DPA 300 (100-300 kW)</b> <b>DPA 500 (100-500 kW)</b>	<b>MegaFlex UL 1.2 – 1.6 MW</b>	(Project Case Basis) <b>HiPerGuard MV UPS</b>
Segments/ applications	Small IT Rooms Building infra-structure Critical equipment ATM	IT / server rooms Data centers Telecomm. Building infrastructure Healthcare & medical imaging Light industries	IT / server rooms/ edge Data centers Telecom Building infrastructure Transportation	Data centers Hospitals Light industrial	Data centers Critical process & automation Semiconductor Manufacturing Mining Oil, gas and chemicals
Pictures					
Power range	600 VA – 20 kVA Parallel systems: up to 80 kVA	10 kVA – 1000 kW Parallel systems: up to 5 MW	10 kW – 500 kW Parallel systems: up to 3 MW	1 MW – 1.6 MW Parallel systems: up to 4 units	2.25 MVA – 22.5 MVA (parallel systems)
	<b>UL - 120V, 120V/240V</b>	<b>UL - 480V</b>	<b>UL – 208V/480V, 415V</b>	<b>UL – 480V</b>	<b>UL – MV various</b>

# Power distribution and power conditioning offering

## Power Distribution for data center applications

## Power Conditioning for critical process applications

### Static transfer switches

### Power distribution units & Remote power panels

### Voltage conditioning

### Static frequency converters

IEC offering

Cyberex® SS4 200-1200 A (380 to 415V)

PCS100 AVC-20 for voltage regulation  
PCS100 AVC-40 for sag correction

PCS100 SFC

cUL/CSA listed offering

Cyberex® SS4 200-4000 A (208 and 480 V)

**TruFit PDU 50-300 kVA**  
Cyberex® PDU 50-800 kVA  
Cyberex® PDU-MS 850-1300 kVA

Segments/ applications

Data centers  
Building infrastructure

Data centers  
Building infrastructure

Semiconductor  
Manufacturing  
Food and beverage  
Medical and pharmaceutical

Ship-to-shore application  
Military  
Cogen  
Industrial relocation

Pictures



Power range

200A – 2000A

50-800kVA

250 - 3000 kVA for PCS100 AVC-20  
150 - 3600 kVA for PCS100 AVC-40

125 - 2000 kVA  
Parallel systems: up to 10 MVA

**UL – 208V / 480V**

**UL – 208V / 480V**



# ABB's portfolio of EV chargers span across multiple charging applications

EV charging experts can help identify the right solution for your charging operation

Public and commercial EV Charging				
<b>AC Wallbox</b>	<b>DC Wallbox</b>	<b>DC (and AC) Fast</b>	<b>Depot Charging</b>	<b>DC High Power</b>
3-22 kW	20-25 kW	50-180 kW	Several units 50-175 kW+	150-600* kW
4-16 hours	1-3 hours	20-90 min	Overnight	10-20 min



For car  
(\*350kW)

For bus

----- Alternate use-cases for depots

[ABB E-mobility EV Charging Product Data UL North America](#)