

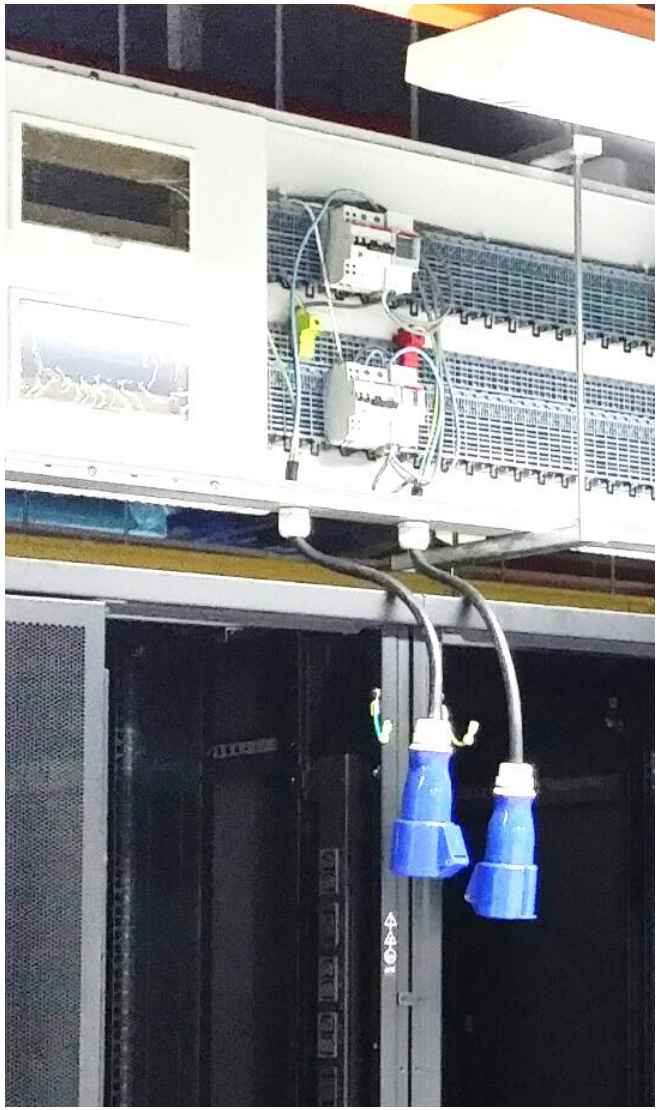
Introduction, Ops 16thAug2016, EP

Critical Installation Seminar
Warmest Welcome

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Introduction



Most of the electrical system must meet all the requirements for critical power distribution. However, with systems that are operating all the time, the problem often arises that extensions or modifications need to be carried out whilst the system is live. This is where you can learn working on live systems is basically possible.

In this session, ABB will discuss the important of flexibility in **hot swapping** or **pluggable** solution for protection device working on live, selection of compact devices for space saving, mix phase installation and capacity extension.

This can crucially reduce the costs during the entire life cycle of a system, whilst at the same time offering increased protection for personnel.

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MNS Low Voltage Systems
Designed for Critical Installation

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MNS PDU



MNS® design – built for customer benefits

- Safe, reliable & easy to maintain PDU, using standard components from ABB LV product portfolio -
  - SMISSLINE-TP
  - Current Measuring System CMS
  - Energy Meter A44 EQ
  - PLC AC500
- Optimized design
  - Scalable
  - **Hot swop** – On-line load reassignment / add-delete circuits
  - Enhanced system reliability / availability by intelligent monitoring and alarm
  - Compact design for reduced footprint
  - Tested & proven mechanical structure from MNS family
- High asset availability

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MNS Up



Power distribution and UPS in single, compact system

Data centers need compact and configurable switchgear and UPS that are easy to buy, install and maintain.

Scale – fewer, larger facilities

Diversity of supply – multiple power sources

Intelligence – smart components that

communicate and self-supervise

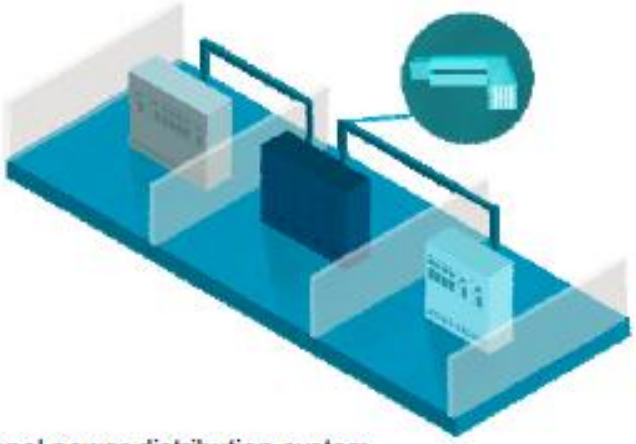
Failing small – failures contained, limiting impact on availability

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MNS Up – Integrated into MSB

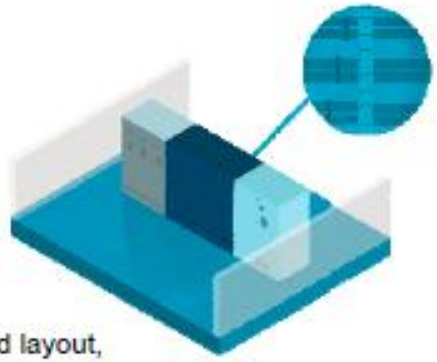
Conventional power supply architectures use standalone assemblies for input and output switchgear and UPS.

- Assemblies physically separated
- Well known and established architecture
- Expensive and space-consuming topology
- Extensive power cabling / bus duct/ bus way
- Separate incoming / outgoing breaker sections
- Complex to scale



Conventional power distribution system layout, with external bus duct or cable connections

MNS-Up combines switchgear and UPS into an integrated, fully scalable assembly

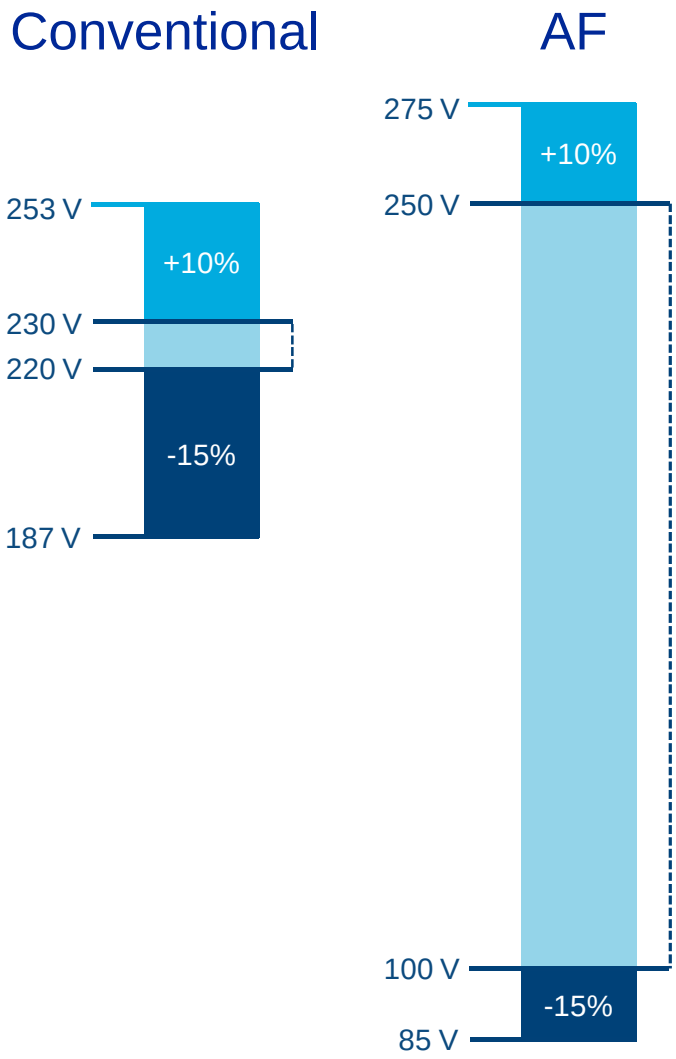


MNS-Up: highly integrated layout, with internal bus bar connections

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AF Contactor – Volt Dip Ride Through (SEMI F47)





Complete range from 9 A to 2650 A

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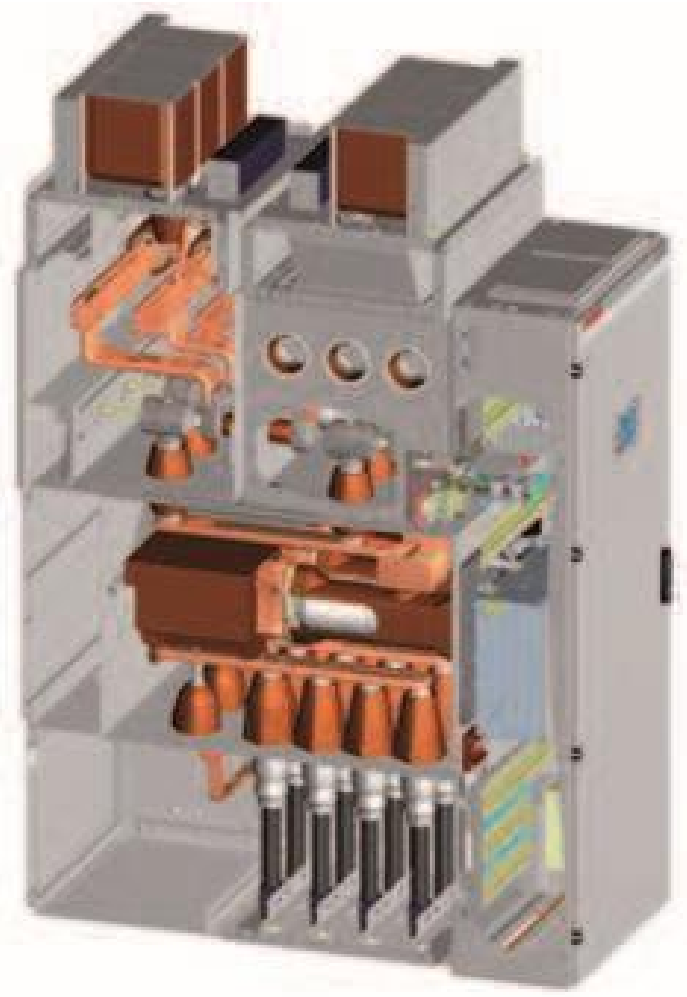


MV Gears and Protection Relays
Designed for Critical Installation

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GIS MV Gears



ZX2-Double Busbar

High voltage parts in

- Hermetically sealed SF_6 gas compartments
- High voltage compartments free from environmental influences for life
- The life expectancy of switchgear with gas insulation (GIS) is thus considerably increased.
- At a slight pressure (0.3 bar)
  (for detection of leaks and avoidance of air ingress)

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GIS MV Gears for Critical Installation





		Single busbar	Single busbar	Single busbar	Double busbar
		Up to	Up to	Up to	Up to
		25 kA	31.5 kA	40 kA	40 kA
		1250 A	2500 A	2500 A	2500 A
Voltage	**BIL Level**				
12 kV	75 kV	**ZX0**	**ZX1**	**ZX2**	**ZX2**
24 kV	125 kV				
36 kV	170 kV				
40 kV	185 kV				

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Protection for Critical Application





Full family of protective relays for various protection applications

- Arc protection
  - REA 10_ family
- Feeder protection
  - REF 541/3/5 and REF 542plus
  - REF615, REX 521 and DPU 1500/2000 R
  - REJ 52_ , REU 52_ ,
  - Machine & transformer protection
  - REM 543
  - REM 610
- Multi purpose protection
  - SPACOM product family

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Protection for Critical Application – Relion® Family



- Committed to protect
- The best fit for every need
- Seeing things in a new light
- Full support from start to finish

- **Relion®** - a strong family name as an identifier for the new generation of Protection and Control IEDs from ABB
- From interconnected transmission grids to secondary distribution kiosks
- 670 series for transmission
- 650 series for sub-transmission
- **630 series** for advanced distribution
- **615 series** for distribution - compact and powerful
- **610 series** for distribution - dedicated protection
- **60_ series** for basic distribution

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