

# Ambit Switchgear Pvt Ltd.

Premium Electrical Panels Manufacturer



**Ambit**

**www.ambit.in**

# INTRODUCTION

# Ambit

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Established in 2005 to provide complete solution of  
Electrical Panels

Our motto is to provide

*“Technology with Excellence”*

IN ALL OUR ACTIONS

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- **About us**
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- **Certifications**
- **Clients**

# About the leadership



**Anand Singhal**

- Electrical Engineer
- Over 40 years of experience
- Expert in design, manufacturing, testing and commissioning of all kinds of panels



**Rakesh Jain**

- Electrical Engineer
- Over 40 years of experience
- Wide experiences across Merchant Navy, electrical contracting and manufacturing of electrical panels



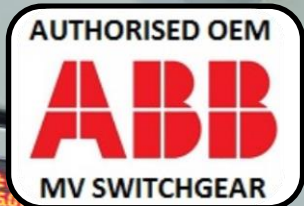
**Akansha Jain**

- Engineer from DCE
- MBA from Darden (University of Virginia, USA)
- Worked in India and USA in manufacturing and consulting



# Partnerships

Multiple collaborations with global industry leaders to bring innovative solutions



## Authorized System House of ABB, For Medium Voltage Panels 3.3 KV to 33KV

Only select few in India | Received multiple awards from ABB  
ABB is a global leader in power and automation technologies for medium voltage switchgear



## Licensed Agreement with ABB For Low Voltage Panels "Ar Tu-K"

"Ar Tu-K" – total type tested assembly (TTA solution) in accordance with IEC-61439 – 1 – 2



## Collaboration with Socomec; sole franchise in India For Automatic Transfer Switch (ATS) with Bypass Panels

Socomec, a French company | ATS Bypass is a solution which allows on Normal/Emergency changeover installation to isolate the equipment during maintenance periods & keep supply available to the load



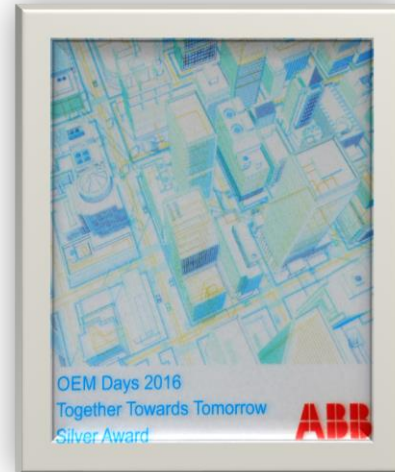
## Authorized system integrator of DEIF For DEIF products - Advanced Gen Set Controller (AGC), load sharing units and relays

DEIF, Danish company, is a global supplier of green, safe and reliable control solutions for decentralized power production, marine and wind turbines

# Awards

We have received multiple awards from our partners and clients

- Best Emerging Vendor 2018 by BHEL
- Best MV OEM –North by ABB – 2012
- OEM Silver Award –North by ABB - 2016
- OEM Silver Award by ABB - 2017



# Salient Features | Infrastructure

## Sizeable and Reliable Infrastructure

Spacious and clean facility of 24,000 Sq. Mtr (~3.5 football fields)  
Organized layout with capacity of INR2000M/\$30M  
More than 100% power back up

## Equipped People, Process & Systems

Driven by Technocrats & Trained Manpower  
Certified as per latest ISO:2015  
High technology adoption – Pro E & EPLAN for Design | SAP as ERP

## Pure and Branded Raw Materials

Only Branded - All components are branded  
Al/Cu bought at source to ensure electrical grade with best conductivity  
Partnership with international players - ABB, Socomec and Deif

## State of art machinery

Sophisticated Machinery from Japan, Turkey, Italy, & Switzerland  
Amada CNC machines, 10 tank treatment, Gema paintshop  
2 sets of machinery to ensure zero downtime



# Salient Features | Build and Design

## Special Low Losses Busbar

Special joints for low mV drop/power losses  
Interleaving busbars 4000 Amp and above  
Use of 6mm thick busbars for better heat dissipation  
Use only electrolytic grade (Min. conductivity Al- 57% Cu-97%)

## Durability

### Electrical

Low heating due natural ventilation  
Wire harnessing machine  
Pneumatic crimping for superior crimping quality

### Mechanical

Use nut inserts, cage nuts, stud welding, Cu-coated earth stud duly brazed  
Use of steel reinforced EPDM gasket-life minimum 15 years  
Use pure polyester paint for longer life  
Use Spot welding  
Rigid construction to bear mechanical stresses  
Tightening of nut/bolt by pneumatic tools

## Safety

Earthing connections  
Shrouding with poly carbonate sheet  
Fully compartmentalized



# Salient Features | Post Sales

## Easy Commissioning

- Common fish plates
- Plug socket terminal at transport section
- Front lifting hooks
- Commissioning support is complimentary

## Easy maintenance

- Sufficient space for cable connections
- Natural cooling – no low/heating – requiring less frequent maintenance
- Busbar in the backside for easy access
- Dust and Vermin proof

## Easily Expandable and Neat Layout

- Future cabling
- Empty space in back
- Back busbar
- Empty area

## Prompt post-sales service

- Ready to serve even after warranty period
- AMC services offered
- Well qualified and trained team
- Fully equipped with tools and spares

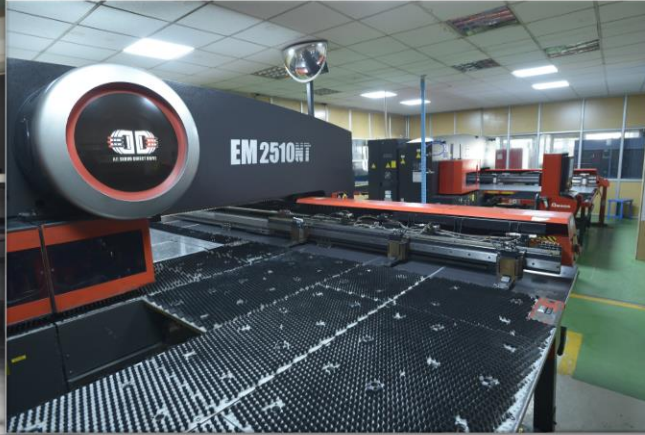
**Automatic sheet loader**

**Inhouse innovation**



**CNC punching machine**

**2 sets - Amada, Japan**



**CNC press brake**

**2 sets - Amada, Japan**



**CNC shearing machine**

**Beykal, Turkey**



**Pre-treatment process**

**10 tanks instead of 7**



**Powder coating plant**

**Gema, Switzerland**





# Low Voltage Panels

## Range

Draw-out and Fixed

## Product Range

AmCube™ (In-house TTA panels)

PCC	Soft Starter	APFC panels
MCC	Control & Relay	Scada/PLC Automation
VFD	DG Synchronizing	Intelligent MCC

## Salient Features

- **Compliant** with latest IEC-61439 and IEC-60439
- **Earthquake safe** - seismic test done at highest zone IEE693-2005
- **Customizable** - fully bolted and modular design
- **Low losses** – unique busbar design
- **Dust and vermin proof** – use of special steel reinforced gasket
- **Human safety** – finger touch proof panel



# Ambit – ABB “Ar Tu K” – LV TTA Solution

Ambit manufacturers, under License Agreement with ABB, TTA solution – Type “Ar Tu-K ”  
These are **totally type - tested design** in accordance with **IEC-61439-1-2**

## Salient Features:

- **Compliant** with latest IEC-61439 including internal arc test
- **Earthquake safe** - seismic test done
- **Customizable** - fully bolted | top/bottom cable entry
- **Low losses** – unique busbar design
- **Dust and vermin proof** – 4 point locked glass door | double front door
- **Human safety** – no direct access to live parts

## Technical Characteristics

- Rated Service and insulation voltage <**1000 V**
- Rated current: **6000 A**
- Rated short circuit withstand current: **105/254 kA**
- Degree of Protection: **IP31-65**



# AmCube® - Ambit TTA

## Ambit TTA panels as per IEC 61439

### Product Range

Fixed and Drawout, extendible	PCC
Distribution boards	MCC
Smart Panels	Intelligent MC

### Salient Features:

- **Compliant** with latest IEC-61439-1-2
- **Customizable** - Fully bolted and modular design
- **Low losses** – unique busbar design
- **Dust and vermin proof** – use of special steel reinforced gasket
- **Human safety** – finger touch proof panel

### Technical Characteristics s

- Rated Service and insulation voltage **690V**
- Rated current: **5000 A**
- Rated short circuit withstand current: **50/105 kA**



# Medium Voltage Panels

## Range

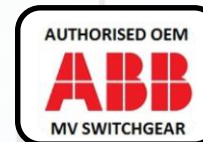
Draw-out and Fixed

## Product Range

33KV VCB/SF6	11KV Busducts	RMUs, Earthing Trucks
11KV VCB/SF6	11 KV Grid/DG Synchronizing	11KV LAVT, NGT, NIS & NGR (Power Protection Series)

## Salient Features

- Exhaustive CPRI tests as IEC 62271:200
- Internal arc tested for busbar and cable chamber
- Reliable, safe, durable and low losses
- Internal inspection includes 100% primary injection
- Authorized System House of ABB





# Packaged Sub Stations

## Product Range

**Voltage** 3.3 | 6.6 | 11 | 22 | 33 KV

**Power Range** 200 – 2500 KVA

**Tap changer** OFTC | OLTC

**Transformer** Oil | Dry

**Add on** Regular | Skid mounting type

## Salient Features

Hassle free  
No extra cost  
installation

- No assembly required onsite
- Single point lift and place of the PSS
- Quick commissioning-connect I/C, O/G cable & N/E strips

Type Tested and  
Safe

- Exhaustive CPRI tests including special tests  
*Internal arc fault | Temperature rise test (K-10) | Degree of protection for transformer and panel chamber*
- Fully compartmentalized to minimize damage
- Automatic tripping in case of human intervention

Supreme  
“Weatherproof”  
Quality

- 2.5x life - rust proof hardware and GI sheet
- Weatherproof pure polyester paint
- Dust and vermin proof
- Naturally ventilated design

# Solar Product Range

## Range

Upto 800V AC and 1500V DC

8,10,12,14,16,20,24 channels

Indoor and outdoor

## Product Range

String Monitoring Box	ACDB & DCDB
String Combiner Box	Fuse Box
Solar VCB MV panels	Inverter shelters
Busduct	Ski-mounted/Step up PSS

## Salient Features

- TUV certified SMB and SCB
- Higher conductivity due to special copper joint
- Flameproof polyamide enclosure
- IK10 impact passed
- Complies UL94
- Passed for EMC test with CE, RE, ESD, EFT, Surge

# Safebatt® - Patent Protected



## Purpose

Unique solution to store UPS batteries which in case of a battery fire mishap ensures

1. Continues UPS backup
2. Safety to human and property

## Current Problem:

Conventional battery storages are stored

1. High risk of catching fire due to poor ventilation
2. High risk of entire building catching fire
2. High risk of life loss
3. Total Power backup failure for days

Watch the [video](#) to see how it works



# Bus Trunking

## Product Range

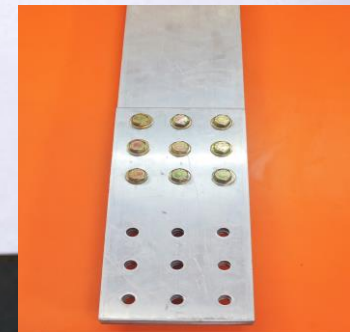
- 200A - 8000A
- Aluminum and copper
- Indoor and outdoor type
- 3 phase 4 wire, 3 phase 3 wire with 50% and 100% neutral

## Salient Features

- Compliant with IEC 61439 & IS 8623
- High conductivity due to use of electrolyte grade Al and Cu
- Low temperature rise due to unique design of busbar & ventilation
- Low mV drop due to unique design of busbar joints
- Low eddy current losses due to use of non-magnetic support
- Longevity due to epoxy polyester powder coating
- Separate earth bus in the enclosure



Unique Bus Bar  
Jointing System



Conventional

# LV Certifications as per Latest IEC 61439

## LV Fixed Type

Short Circuit Withstand Capacity

For 4000A | Phases 100 for one second

For 6300A | Phases 65KA for one second

Temperature Rise Test

Degree of Protection : IP-54 (Indoor)

Degree of Protection : IP-55 (Outdoor)

Internal Arc Test

## LV – draw out type 800A

Short Circuit Withstand Capacity - Phases-50 KA/1 Sec

Draw-Out Trolley - Phase 50KA/1Sec

Protection against Electric Shock and integrity of protective circuit

## Amcube™ – Ambit TTA as per latest IEC 61439

Short circuit withstand strength

50KA / 1sec. with initial peak of 105KA for main circuit

50KA / 1sec. for incomer ACB & outgoing SDFU

30KA / 1sec. for protective earth circuit

Temperature rise limits

Dielectric properties

Degree of protection – IP43

Verification of resistance to corrosion (severity test-A)

Verification of resistance of insulating materials

Lifting, mechanical impact, marking, clearance & creepage distances, verification of mechanical operation

# Seismic, Busduct and Solar combiner boxes

## Busduct and Rising Mains

For 4000Amp / 2000Amp/600 Amp

- Short Circuit withstand capacity test : 70 KA/50 KA
- Impulse Test : 4.7 KV Peak
- Temperature Rise Test
- Degree of Protection : IP-54 (Indoor)
- Degree of Protection : IP-55 (Outdoor)

## Earthquake Proof Panels

Seismic test done at highest zone IEE693-2005

## Solar String Monitoring Box and String Combiner Box

- TUV certified SMB and SCB
- IK10 impact passed
- Complies UL94
- Passed for EMC test with CE, RE, ESD, EFT, Surge



# Certification MV and PSS

## 11 KV

Short Circuit Withstand Test: 40KA for 3 sec

Temperature Rise Test: 1250 Amp

Impulse Test : 75 KV

Degree of Protection: IP 53 (Indoor)

Degree of Protection: IP 55 (Outdoor)

## 33 KV

Short Circuit Withstand Test: 31.5 KA for 3 sec

Internal Arc test

Temp Rise Test: 1250 amp

Impulse Test: 170 KV

Degree of Protection: IP 4X

## Package Substations

- 1.Internal Arc Fault Test\*
- 2.Temperature Rise Test (Differential)\*
- 3.Degree of Protection IP-33D-Transformer Compartment\*
- 4.Degree of Protection IP-55 – LV Compartment
- 5.Degree of Protection IP-55 – MV Compartment
- 6.Dielectric Test on the MV Circuits
- 7.Dielectric Test on the LV Circuits

# Clients - Highlights

- High retention rate
- We build relationships
- Our high quality allows us to consistently deliver to consistently deliver to Korean and Japanese clients in India
- VVIP installations – Ambit panels are installed in 20+ public/government buildings
- Worked with most of prominent contractors & consultants in NCR
- We execute for all critical applications due to reliability of our products

## Auto Industry



HONDA



ROULUNDS  
braking



SHOWA

MANN +  
HUMMEL



œerlikon  
graziano

We are specialists in auto industry and have worked with all prominent players

## Government



IndianOil



Statue  
of Unity

PM House

Teen  
Moorthi  
Bhawan

We are trusted partners of Government & done ample VVIP installations

# Railways & Hospitals



Delivered in critical infrastructure locations

# Power Segment



Can customize and deliver on complex industry applications such as hydro

# Steel & Cement



Delivered at locations with zero downtime

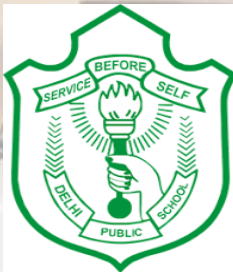


## Real Estate Developer



Worked with all relevant real estate developers

## Hotel, Embassy & School



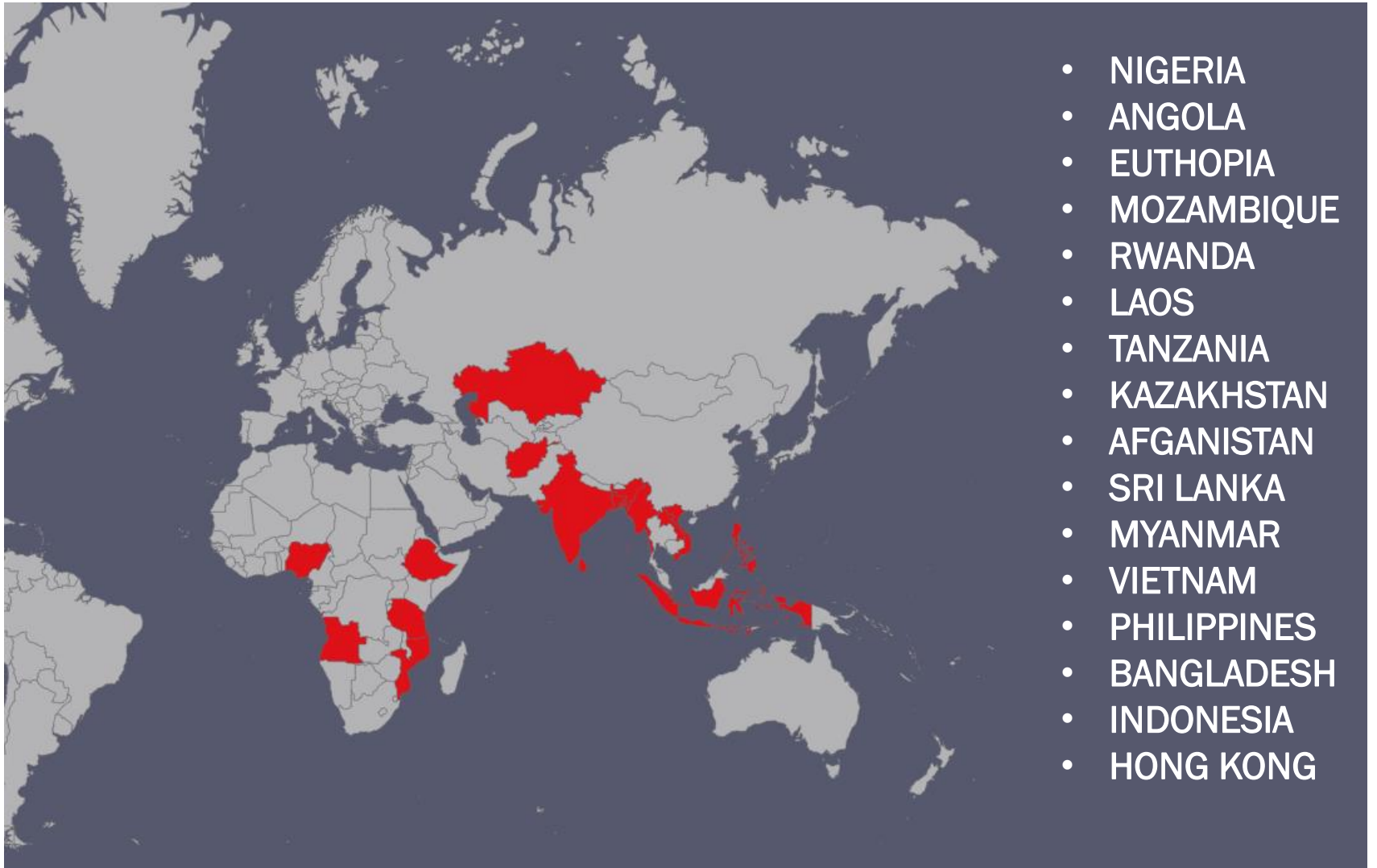
Delivered to multiple demanding locations

## Food & Dairy



Worked with recognized industries players

# Export presence



# Thank you!

Contact us at [sales@ambit.in](mailto:sales@ambit.in)  
[www.ambit.in](http://www.ambit.in)

