

L&T Ti TTA Panels as per latest IEC standard 61439-1&2

The L&T Ti- design based range of LV switchboards are completely verified by testing with Aluminium and Copper busbars. These panels are designed for high reliability & safety and operation & maintenance in Indian tropical conditions.



Features

- Compliance to latest IEC standard 61439-1&2
- Robust panel structure, versatile & design-verified assembly
Compartmentalised up to Form 4b, bolted and flat-packed.
- Double deck busbar system reduces impedance & heat loss
- Designed for rated current up to 5000A
- Rated fault withstand current up to 100kA
- Adequate space for cabling
- Flexibility in cable/busbar entry
- Best-in-class insulation
- Ingress Protection up to IP54/ IP55 ; (IP2X after opening of door)
- High internal Arc withstand up to 85kA 0.5sec
- Seismic resistance design and verified in accordance with global standards of IEC 60068-3 (richter scale 9), ICC ES AC156 & IS 1893 Zone V requirement.



VERIFIED SAFE

Ti design based range of LV switchboards has safety features to safeguard your system as well as personnel who operate it.

Design Verified for Safety in accordance with IEC 61439-1&2 from design to assembly.

Safer Busbars with high clearances & creepage of 25mm ph-ph and 19mm ph-N/ph-E.

Form of Separation up to 4b with compartmentalized design as per IEC 61439- 2

No Accidental Contact with live parts or terminals for an operator during maintenance because of provision of rotary knob.

Zero 'Stray Voltage Doors and Panels - The LV switchboard panel doors are designed to prevent accidental opening and provisioned with Earthing contacts. The Earth bar running the length of switchboard, connected to every structural members ensure operator safety.

Padlockable doors provide additional safety.

Enhanced Ingress Protection- Even with doors open, a minimum of IP2X ensures that the operator does not come in contact with live terminals or parts during maintenance.

Best-in-class Insulation with polyester glass support. Choice to use heat-shrinkable PVC sleeves for extra protection.

DESIGNED FOR CONVENIENCE

The Ti range incorporates a number of features that make your installation and maintenance easy.

- Wide cable alley
- Flexible busbar configuration
- Easy access doors, hinged doors that open up to an angle of 95 degree.

DESIGNED FOR COMPACTNESS and SPACE/COST SAVER

Ti offers flexibility and customization to suit your space requirements.

- Choice of Single-front or Double-front arrangement, multi-tier, half width modules and 440mm depth etc.
- Flexible Panel configuration with different heights with top/bottom busbar
- Flexible cable entry/busbar entry position
- Shared droppers
- Compact feeder modules

Applications

Airports, Metros, Railways, Datacentres, Smart Cities, Commercial Buildings, Hotels, Education, Healthcare, Pharma, Defence, Chemical & Water treatment Plants and Automobile & Industry.

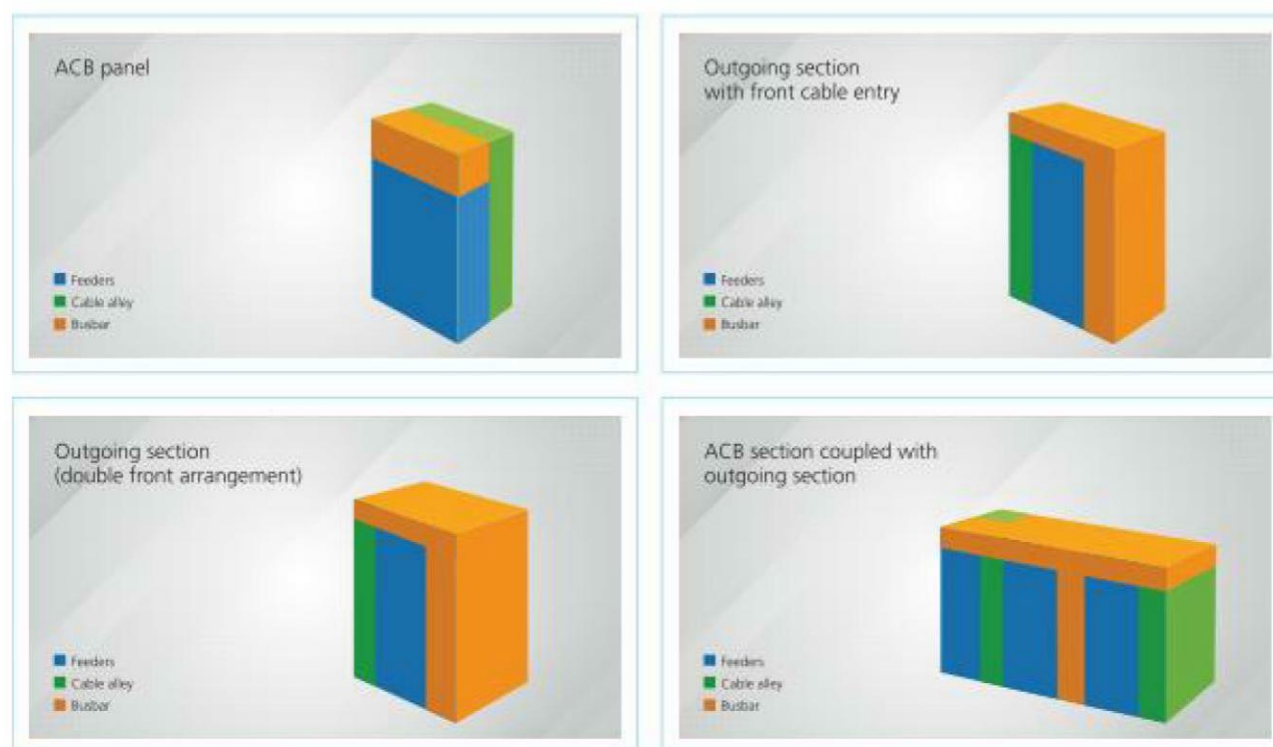
Jyoti Switchgears Pvt. Ltd.

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Range and Characteristics

Standards			IEC 61439 - 1&2
Insulation Characteristics		Clearance	25mm Ph-Ph
		Creepage distances	>25mm
		Overvoltage category	II / III / IV
		Pollution degree	3
		Field condition	Inhomogeneous (non-uniform)
Electrical characteristics	Voltage rating	Rated operational voltage (Ue)	415-690 VAC, 24-22- VDC
		Rated insulation voltage (Ui)	690 V
		Rated impulse withstand voltage (Uimp)	8 / 12 kV
		Rated frequency (fn)	50 / 60 Hz
	Current ratings	Main Horizontal busbars:	
		Rated current (InA)	up to 5000A
		Rated peak withstand current (Ipk)	up to 220kA
		Rated short-time withstand current (Icw)	up to 100kA 1s
		Vertical Distribution busbars:	
		Rated current (InA)	up to 3000A
		Rated peak withstand current (Ipk)	up to 154kA
		Rated short-time withstand current (Icw)	up to 70 kA (1s) / 100 kA (1s)*
Mechanical Characteristics	Degree of protection	In accordance with IEC 60529:	
		External	IP-43/IP-54/IP-55*
		Internal	IP 2X
	Forms of separation	as per IEC 61439-2	up to form 4b type 6
	Dimensions	Height (mm)	1800, 2000, 2200, 2400
		Width (mm)	440, 600, 800, 1000 (ACB section)*
			850, 1100, 1400, 1650, 1900 (Outgoing section)*
		Depth (mm)	440, 600, 900, 1000, 1100 (ACB section)*
			440, 600 (Outgoing section)*
	Surface Treatment	Structure	Powder coated
		Internal Components	Powder coated
		External Components	Powder coated
	Resistance to Corrosion	Damp heat cycling test	IEC 60068-2-30
		Salt mist test	IEC 60068-2-11
	Plastic Components	Flame retardant, self-extinguishing, Halogen-free	IEC 60695-2-10. IEC 60695-2-11

Configuration



Panel Height 'H'	Usable Area					
	ACB section			Outgoing section		
	210HBB	310HBB	410HBB	210HBB	310HBB	410HBB
1800	1220	1120	1020	1460	1360	1260
2000	1420	1320	1220	1660	1560	1460
2200	1620	1520	1420	1860	1760	1660
2400	1820	1720	1620	2060	1960	1860

Power Control Center



Power Control Center including protection and power quality solutions

- Main Busbar upto 8000A
- Upto 5000A (Omega Breaker ACB)
- Upto 1250A (MCCB)
- Power factor correction upto 300kVar/Verticle

Motor Control Center



Motor control Center including protection, starters, drives

- Starter Feeders upto 250kW (MCCB/MPCB)
- Soft starters upto 375kW
- VFD Drive feeders upto 250kW

Outdoor Power Distribution Solutions with Protection and Metering



- Assembly for outdoor installation – Tested & certified per IEC 61439-1&2
- Degree of protection upto IP55
- Digital panel with complete range of connected products & edge control solution
- Main incomer Feeders upto 1600A (Omega Breaker ACB) and upto 800A (MCCB Feeders)

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Smart communication solution- smartComm.

Digital and intelligent panel solutions offer more convenience, comfort and safety through the state-of-the-art smart communication system with the complete range of connected products. With the latest technologies, digital panel solutions have access and collaborate information in real-time to meet the rising demands of energy optimization/remote monitoring and control of switchgear.



Digital solution supports wide range of devices (ACB, MCCB, Meters, Drivers, Soft Starters, IMMR Relays, MCOMP Relays, etc) and protocols Modbus TCP/IP/Modbus RTU/Profibus/Ethernet Scalable- It can expand its functionality to address the growing requirements of smart grids and smart cities.



Powered by Ivisionmax platform 'SmartComm' is a state-of-the-art SCAD-based unified software platform for device communication, integration, data acquisition, data management, monitoring & control and business intelligence. Ti Digital Panel solution can enhance the operation and provide savings for a number of applications like, Integration, Monitoring, Control & Diagnostics, Energy Management Solutions, Power Management Solutions, Energy & Power quality management.

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