



ALFA

INTERCONTINENTAL PVT. LTD.

EST. 1985

(FORMERLY KNOWN AS CONTINENTAL ENGINEERS)

ALFA™ INTERCONTINENTAL PVT LTD

Manufacturer of Instrument Transformers **Since 1985**

40 YEARS OF TRUST



www.alfaintercontinental.com

Unleash The Power Of Excellence

With **ALFA™** Products



40+

Years of
experience



3000+

Satisfied
Clients



5,00,000+

Projects
Completed



Welcome to **Alfa™ Intercontinental Pvt Ltd**
formerly known as **Continental Engineers**



- **Leading Indian manufacturer & exporter** of Instrument Transformers
- Company Founded in **1985**
- Offers a **wide range product**
Range of Products:
 - ✓ Outdoor oil-cooled current/voltage transformers up to 33kV
 - ✓ Outdoor oil-cooled CT & PT metering set up to 33kV
 - ✓ Outdoor oil-cooled single-phase CT & PT metering set up to 33kV
 - ✓ Resin-cast indoor Current/Voltage/Potential Transformers up to 33kV
 - ✓ Metering Cubicles up to 33kV
 - ✓ Low-tension Current/Voltage Transformers
 - ✓ Bushing Current Transformers
 - ✓ Polycarbonate Encapsulated Current Transformer
 - ✓ Tape Insulated Current Transformers
 - ✓ Dry Type Voltage Transformers

Experience The Future Of Instrument Transformers

With **ALFA™** Products

Why Choose US ?



In-House Expertise: 40+ years of technical excellence and growing.



Rigorous Testing: Products verified by **NABL** Approved labs such as **KEMA, ERDA, ERTO, CPRI**.



Global Reach: Operating in India, Singapore and Africa.



BIS Certified: Wide range of products, unmatched quality.



Impressive Capacity: Annual production capacity of 18L+ LT Current Transformers and 6000+ HT Current Transformers



Cutting-Edge Facilities: 2 separate factories with state of the art manufacturing in Jaipur.



International Success: Exporting to Africa, Many Middle East / African / European companies.



Standards Compliant: Customized products per IS/IEC/ANSI norms.



Prevent Losses: Avoid setbacks with reliable products.

Connecting Energy with Excellence

With **ALFA™**

Our Services – Substation & Electrical Infrastructure Works

At **Alfa Intercontinental Private Limited** we specialize in turnkey execution of power distribution projects, with proven experience of working under **Jodhpur Vidyut Vitran Nigam Ltd.** (JdVVNL) standards.

1. **Core Services** - Substation Erection (11kV / 33kV) - Complete survey, civil foundation, equipment erection, wiring, testing & commissioning.
2. **Overhead Line Works** - Supply & erection of 11kV / 33kV lines including poles, conductors, insulators & accessories.
3. **Underground Cabling Solutions** - Trenching, laying, jointing & termination of 11kV XLPE/HT/LT cables.
4. **LT Distribution Systems** - Installation of LT lines, distribution boxes, service connections & associated works.
5. **Testing & Commissioning** - Ensuring full compliance with Indian Electricity Rules, safety norms & utility specifications.
6. **Operation & Maintenance Support** - Performance monitoring, preventive checks & fault rectification.
7. **End-to-end EPC solutions** – from design and procurement to construction & commissioning of power substations.



Why Choose Us -

- **Executed multiple** turnkey projects under JdVVNL-approved contracts.
- **End-to-end capability:** Survey → Supply → Erection → Testing → Handover.
- **Skilled manpower** - certified supervisors & adherence to all safety and statutory compliances.
- **Timely completion** with guaranteed quality standards.



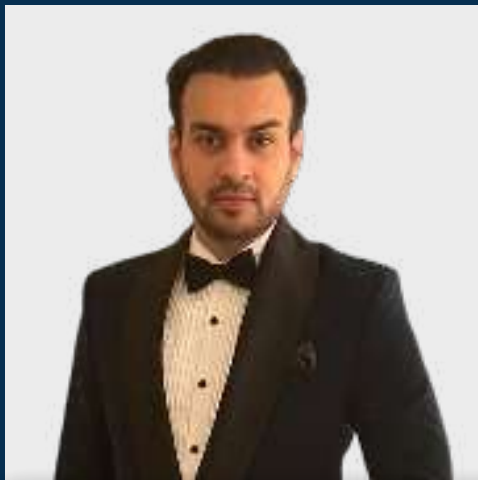


Meet Our Founder

Prof. Amit Pancharya

M.Tech (IIT Delhi) | Founder & Visionary Leader

- Completed his Master's in Technology (M.Tech) from the prestigious **Indian Institute of Technology, Delhi**.
- Served for **42 years as Professor** in the **Mechanical Engineering Department at MNIT Jaipur**, mentoring thousands of engineers.
- **Founded the company in 1985** with a clear vision to make India self-reliant in instrument transformers.
- Guided **ALFA™** Intercontinental through **four decades of consistent growth**, earning a reputation for engineering excellence and customer trust.
- Known as the **think tank** behind the company's in-house innovations, robust systems, and quality-first approach.
- Under his leadership, **ALFA™** became a **globally trusted brand**, exporting to Africa, the Middle East, and Southeast Asia.



Meet Our CEO

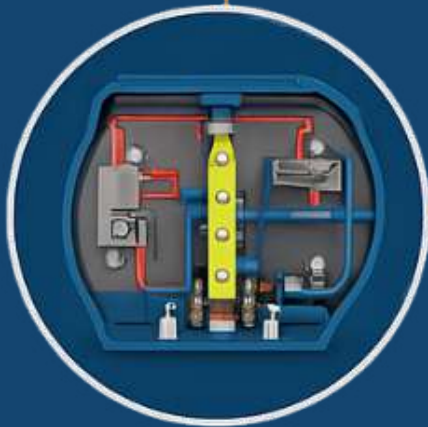
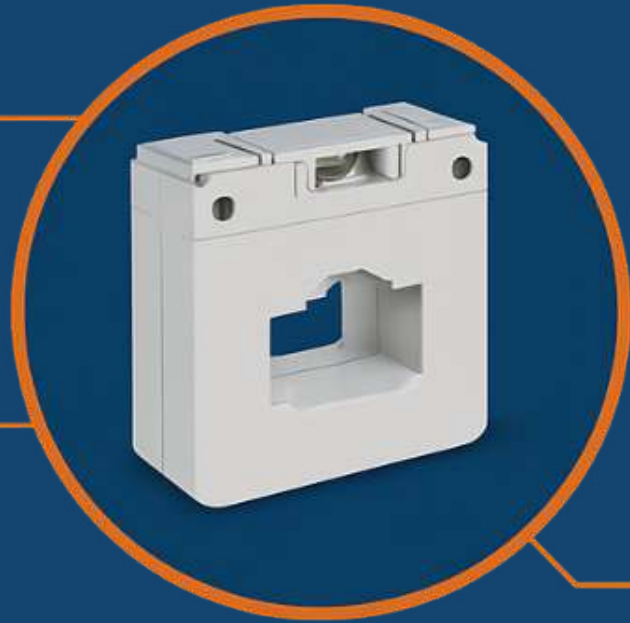
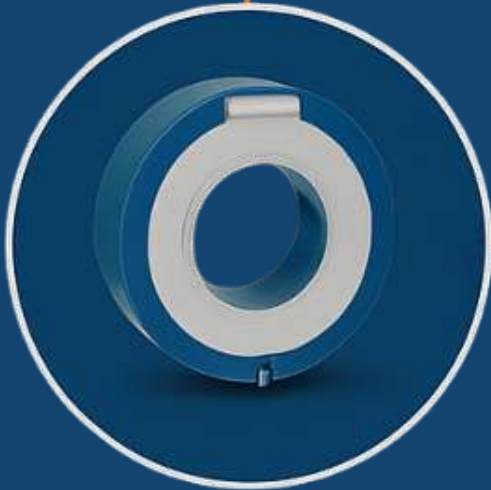
Mr. Aditya Pancharya

CEO | Masters (SMU, Singapore)

- Holds a Master's degree in Management from Singapore Management University, with international experience at **Citibank APAC**.
- Spearheads Business Development and Global Strategy, expanding **ALFA's** reach across the world.
- Introduced modern process driven systems, strategic partnerships, and automation, aligning **ALFA™** with Industry 4.0 standards.
- Focused on scaling operations while ensuring quality, innovation, and a customer-centric approach remain at the company's core.



Engineering Innovation, Empowering Solutions

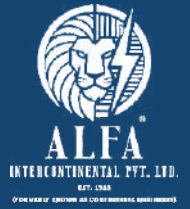


- Polycarbonate Encapsulated Current Transformers.
- Tape Insulated Current Transformers.
- Resin Cast Current Transformers

Solutions for low voltage current transformers



Applications



- Various burden combinations available
- Multiple accuracy classes offered
- Standard as per required
- Meets Insulation Class-E or better



Metering



Protection



Revenue



Core Balance



Indication



Summation



Auxiliary



Interposing



Neutral Displacement



Differential Protection



Meters & UPS Manufacturers



Motor/Power Control Centre

CONSTRUCTION

Low Voltage Current Transformers are designed for supplying to Measuring Instruments and Protective Devices.

- Suitable for System Voltage: 415V / 660V / 1000V
- Frequency: 50 / 60 Hz
- Available in 3 types of construction:

Polycarbonate Encapsulated



Resin Encapsulated



Tape Insulated



CONSTRUCTION

Wound Primary Type (WPL)

(CT having two or more number of Primary turns)

- Preferred for Rated Primary current below 100A
- Offered for higher accuracy with lower burdens (e.g. 5VA/Class-1.0 or 2.5VA/Class-0.5 for metering)
- Available in Resin Cast and Polycarbonate casing!



Window / Plug-In Type (BPL)

(CT having an opening of suitable size in the center for Primary conductor)

- Preferred when Rated Primary current is above 100A
- Economic design
- Available in Resin Cast and Polycarbonate casing! [BPL Images - Red Ring & White CTs]



General Specification

Highest System Voltage	- 720V (max.), 50/60 Hz
Basic Insulation Level	- 0.72 / 4.0 kV
Rated Primary Current	- 1A to 7000A
Rated Secondary Current	- 5A or 1A
Short-Time Thermal Current (I_{th}.)	- 60xI _n
Dynamic Current (I_{dyn}.)	- 2.5 x I _{th}
Insulation Class	- E (Offered B on request)
Average Ambient	- -20°C to +45°C
Connections	- (S1-S2) Two brass terminals of M5 size
Applicable Standard	- IEC-61869 -2 / IS-2705
Standard Burden	- 1.25, 2.5, 3.75, 5, 7.5, 10, 15, 20, 30, 40, 60VA
Instrument Security Factor	- 5 or Less

Class Of Accuracy

- 0.2S, 0.5S – for Tariff (Revenue)
- 3.0, 5.0 – for Indication Purpose
- 1.0 – for General Metering
- 0.2, 0.5 – for Precise Measurement and Laboratory
- 5P / 10P – for Protection and PS for Special Protection

General Specification

- Converts **high AC to lower proportional current.**
- Works accurately from **1% to 120% of rated current.**
- Meets **standard error limits** at rated burden.
- Designed to **saturate above normal range.**
- Limits **secondary current during faults.**
- Protects connected **instruments from damage.**

Measuring Transformer

- Supplies indicating and measuring instruments, integrated meters, and similar apparatus.

Rated Secondary Current

- The standard output current (usually 5A or 1A).
- Used to evaluate CT performance under normal conditions.

Current Transformer

- An instrument transformer where the secondary current is proportional to the primary current.
- Phase angle is approximately zero under normal conditions.

Burden

- The impedance of the secondary circuit.
- Expressed in VA (volt-amperes) at rated current and a specific power factor.

Rated Primary Current

- The value of current intended to be measured.
- Forms the basis of CT performance.

Accuracy Class

- Defines the permissible error limit of the CT under specified conditions.

Rated Transformation Ratio

- Ratio of rated primary current to rated secondary current.

Phase Displacement

- Phase angle difference between primary and secondary currents.
- Zero for perfect CTs.
- Positive if secondary leads primary.
- Expressed in minutes.

Rated Burden

- Refers to the impedance of the secondary circuit.
- Determines accuracy as per specification standards.
- Standard burden values are predefined in general specs.

Rated Output

- Apparent power in volt-amperes at a specified power factor.
- Supplied to the secondary circuit at rated secondary current and burden.

Highest System Voltage

- Apparent power in volt-amperes at a specified power factor.
- Supplied to the secondary circuit at rated secondary current and burden.

Rated Insulation Level

- Voltage level CT can with stand under normal and fault conditions.
- Represents dielectric stress-handling capability of insulation.

Current Error (Ratio Error)

- Occurs when the actual transformation ratio is not equal to the rated one.

Formula:

$$\text{Current error (\%)} = (K_a \times I_s - I_p) \times 100 / I_p$$

Where:

K_a = rated transformation ratio

I_p = actual primary current

I_s = actual secondary current under rated conditions

Rated Short-Time Thermal Current (I_{th})

- r.m.s. value of primary current the CT can with stand for a rated time.
- Withstands short-circuit conditions without harmful effects.

Rated Dynamic Current (I_{dyn})

- Peak primary current a CT can handle without damage.
- Tolerates electromagnetic forces during secondary short-circuit.

Rated Continuous Thermal Current

- Peak primary current a CT can handle without damage.
- Tolerates electromagnetic forces during secondary short-circuit.

Instrument Security Factor (ISF)

- Ratio of rated instrument limit primary current to rated primary current.
- Lower ISF value ensures better protection of connected devices.

GUIDELINES FOR RATED BURDEN AND LIMITS OF PERMISSIBLE ERROR

INSTRUMENT BURDEN*		Limits of ratio error & phase displacement as per IEC: 61869-2**													
Type of Instrument	VA	Accuracy Class	± Percentage Current (Ratio) Error at % of Rated Current shown below						± Phase displacement - Minutes at % of Rated Current shown below						
			1	5	20	50	100	120	1	5	20	100	120		
Moving iron ammeter	1.0														
Bimetal instruments (.../5A)	3.0	0.2		0.75	0.35			0.2	0.2			30	15	10	10
Wattmeter	5.5	0.5		1.5	0.75			0.5	0.5			90	45	30	30
Power factor meter	4.0	1.0		3.0	1.5			1.0	1.0			180	90	60	60
Current transducer	0.5	0.2S	0.75	0.35	0.2			0.2	0.2	30	15	10	10	10	
Power transducer	0.5	0.5S	1.5	0.75	0.5			0.5	0.5	90	45	30	30	30	
kWh-meter	2.5	3.0					3.0		3.0						
Trivector meter	5.0	5.0					5.0		5.0						

Lead Burden of a respective wire size used for connection [VA] **

Cross Section mm ²	For CT having Secondary Current 1 Amp						For CT having Secondary Current 5 Amp					
	Distance between CT and Measuring Instrument / Device in meters											
	2 x 2	2 x 4	2 x 6	2 x 8	2 x 10	2 x 15	2 x 20	2 x 2	2 x 4	2 x 6	2 x 8	2 x 10
1.5	0.053	0.106	0.159	0.213	0.266	0.399	0.532	1.33	2.66	3.99	5.32	6.65
2.5	0.032	0.064	0.095	0.12	0.16	0.24	0.32	0.79	1.59	2.40	3.19	3.99
4.0	0.02	0.039	0.059	0.079	0.099	0.148	0.19	0.495	0.99	1.485	1.98	2.48
6.0	0.013	0.026	0.04	0.053	0.066	0.099	0.132	0.33	0.66	0.99	1.32	1.65

ALFA™ RANGE OF PRODUCTS

Window / Plug In Type Polycarbonate Encapsulated: (Bar/Cable through) - (BPL)

Application	RING TYPE		RECTANGULAR	
	CT Ratio		CT Ratio	Type
Metering	30/5 TO 3200/5		25/5 TO 7000/5	ELP - ELPT
Protection				

Wound Primary Type: (WPL)

POLYCARBONATE ENCAPSULATED (Metering)		RESIN ENCAPSULATED (Metering & Protection)		
CT Ratio	VA/Class	CT Ratio	VA/Class	Type
5/5 TO 30/5	5 / 0.5 OR 10 / 1.0	5/5 TO 125/5	5 / 0.5 OR 5 / 1.0	EWRA
	7.5 / 0.5 OR 15 / 1.0		7.5 / 0.5 OR 10 / 1.0	EWRB
	10 / 0.5 OR 20 / 1.0		10 / 0.5 OR 15 / 1.0	EWRC
40/5 TO 150/5	7.5 / 0.5 OR 15 / 1.0	5/5 TO 150/5	10 / 5P10	EWRD
			15 / 5P10	EWRE

Window / Plug In Type Tape / Resin Encapsulated: (Bar/Cable through) - (BPL)

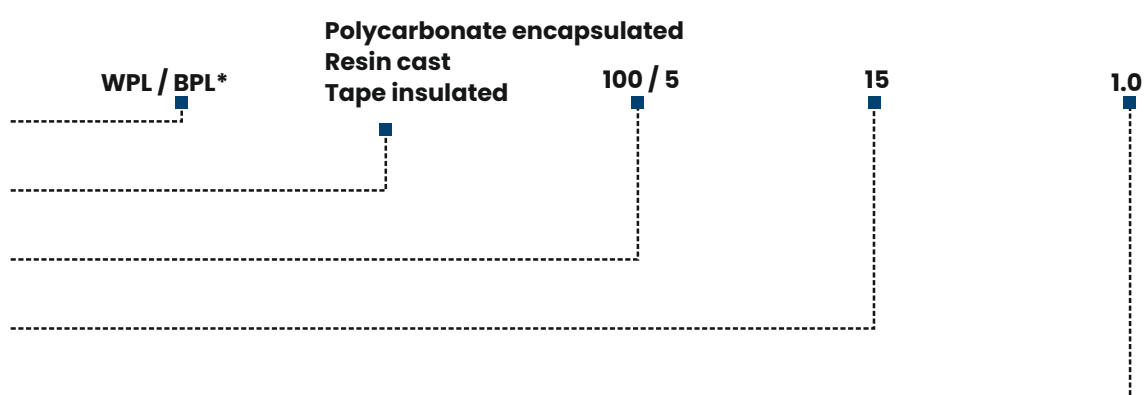
Application	RING TYPE		RECTANGULAR		
	CT Ratio	Resin	CT Ratio	Tape	Resin
Metering	100/5 TO 6000/5	EORA - J	400/5 TO 7000/5	ELTA - L	ELRA - L
Protection	150/5 TO 6000/5	EORD - J			

Salient Features

- Maintenance Free
- Compact Design
- Can be mounted in any position
- High Dielectric strength & Tracking Index
- Can withstand mechanical stresses during fault condition
- Continuous Thermal Current – 120% Rated Primary Current

How To Order

Type
Construction
Ratio
Burden(VA)
Class



* In case of BPL, inner dimensions are essential for correct offer.

Specifications for Differential Protection CT (Class-PS) (Vk)

- Specify Minimum Knee Point Voltage (Vk)
- Specify Maximum Winding Resistance (RCT) corrected at 75°C
- Specify Permissible Exciting Current (I_{ex}) at Vk or part thereof
- Alternatively, a formula for Vk may be provided

- Mounting clamp and Terminal block for Tape Insulated CT can be offered on request.

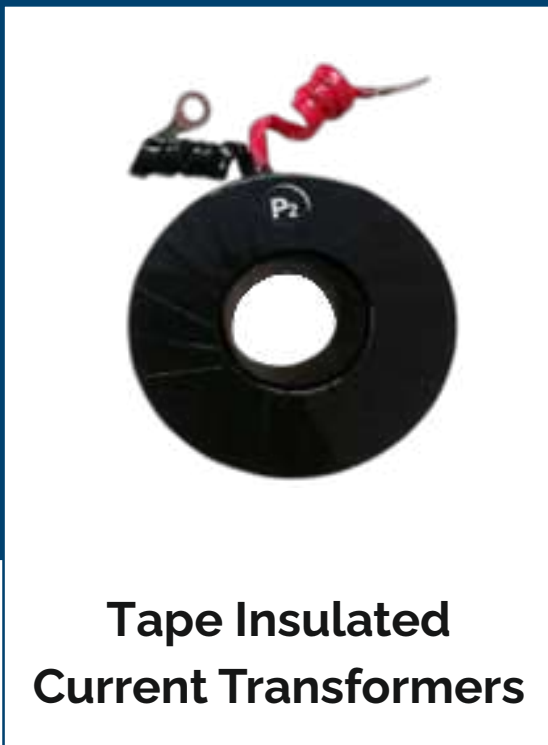
- Third party Type Test Reports can be furnished on request.

- Terminal sealing arrangement for Resin CT can be offered on request.

- Custom requirements other than standard can be offered on request.



Polycarbonate Encapsulated Current Transformer



**Tape Insulated
Current Transformers**



**Resin Encapsulated
Current Transformers**

Low Voltage Products

LOW TENSION CURRENT TRANSFORMERS

- Low voltage current transformers for measuring and protection circuits.
- Accessories included for installation & secondary terminal cover with sealing option.
- Diverse product types available based on dimensions and electrical parameters
- Maximum operating voltage: 0.72 kV, frequency: 50 Hz (or 60 Hz with manufacturer approval).

Technical Specification

Construction	-	Tape Wound & Resin Cast
Type	-	Ring, Bar & Wound
Primary Current Rating	-	Upto 4000A
Secondary Current Rating	-	0.577A, 1A & 5A
Insulation Level	-	0.72/3kv
Accuracy Class	-	For a) Metering: 0.1, 0.2, 0.2s, 0.5, 0.5s, 1.0 & 3.0 b) Protection: 5P10, 10P10, 5P15, 10P15, 5P20, 10P20 & PS
Burden	-	Upto 40VA & Customer Requirement
Standard	-	IS 2705, IS3156
BIS Certified	-	LT CTs & VTs can be supplied as per customer specification multiple primary Conductor compatibility



Low Voltage Products

LOW TENSION VOLTAGE TRANSFORMERS

- Voltage transformers vary in phase: single phase or three phase.
- Construction options include resin-cast and tape-insulated.
- Selection depends on client- specific needs.
- Consider application and voltage requirements when choosing.
- Ensure alignment with electrical system specifications.
- Adequate insulation crucial for safety and performance

Technical Specification

Construction	-	Voltage Transformers (LT VT)
Type	-	Single Phase and Three Phase
Primary Current Rating	-	415V
Secondary Current Rating	-	110/ $\sqrt{3}$ & 100/ $\sqrt{3}$
Insulation Level	-	0.72/3kv
Accuracy Class	-	For a) Metering: 0.2, 0.5, 1.0, 3.0 b) Protection: 3P & 6P
Burden	-	As per Requirement
Standard	-	IEC, IS, ANSI
BIS Certified	-	LT VT's can be supplied as per customer specification multiple primary conductor compatibility



Low Voltage Products

LOW TENSION CURRENT TRANSFORMERS

- Low voltage current transformers for measuring and protection circuits.
- Accessories included for installation & secondary terminal cover with sealing option.
- Diverse product types available based on dimensions and electrical parameters
- Maximum operating voltage: 0.72 kV, frequency: 50 Hz (or 60 Hz with manufacturer approval).

Technical Specification

Construction	-	Polycarbonate & Resin Encapsulated
Type	-	Ring, Bar & Wound
Primary Current Rating	-	Upto 4000A
Secondary Current Rating	-	0.577A, 1A & 5A
Insulation Level	-	0.72/3kv
Accuracy Class	-	For a) Metering: 0.1, 0.2, 0.2s, 0.5, 0.5s, 1.0 & 3.0 b) Protection: 5P10, 10P10, 5P15, 10P15, 5P20, 10P20 & PS
Burden	-	Upto 40VA & Customer Requirement
Standard	-	IS 2705, IS3156
BIS Certified	-	LT CT's & VT's can be supplied as per customer specification multiple primary Conductor compatibility



Low Voltage Products

CONTROL TRANSFORMERS

- Ideal for power supply of control and auxiliary circuits, both in distribution and automation boards
- Used to provide voltage to the control circuits at very high burdens
- Full power on all secondary outputs
- Double secondary outputs (12-24V or 115-230V) on the whole range
- Wide range of power from 50 to 2500VA

Technical Specification

Rated input voltage	-	Acc. To customer requirement
Rated output voltage	-	Acc. To customer requirement
Rated frequency	-	50 Hz
Class rated burden VA	-	Acc. To customer requirement
Standard	-	IS, IEC, ANSI, IEEE



Medium & High Voltage Outdoor Products

DRY TYPE CURRENT TRANSFORMERS

- High-quality cycloaliphatic/HECP epoxy resin
- High glass transition temperature.
- Excellent UV resistance.
- Ingress protection for secondary terminal box.
- Multi-ratio design.
- Taping on secondary and primary windings

Technical Specification

Construction	-	Resin Cast
Type	-	Cycloaliphatic Resin
Primary Current Rating	-	Upto 5000A
Secondary Current Rating	-	5A & 1A
Number of Secondaries	-	Multiple
Connection Type	-	Taping on Primary / Secondary
Frequency	-	50/60Hz
Rated Highest Voltage	-	Up to 36kV
Rated Power Frequency Withstand Voltage	-	Up to 70 kV
Rated Lightning Impulse Withstand Voltage	-	Up to 200 kV
Standard	-	IEEE C57.13, IEC & IS
Accuracy Class	-	For a) Metering: 0.1, 0.2, 0.2s, 0.5, 0.5s, 1.0 & 3.0 b) Protection: 5P, 10P, 15P, PX
Burden	-	As per customer requirement



Medium & High Voltage Outdoor Products

OUTDOOR OIL - COOLED CT / VT / PT

- Live tank or dead tank design options
- Secondary terminal box with IP55 ingress protection
- High-quality porcelain/Silicon composite insulator
- Capacitive Voltage Transformers
- Multi-ratio and multi-core configurations available
- Metering and protection system applications
- OIP Insulated Inductive Voltage Transformers

High Tension Outdoor Potential Transformers

Construction	-	Oil Cooled
Number of Secondaries	-	As per scheme and client requirement
Frequency	-	50 Hz
Primary Voltage	-	11000/Root 3V 33000/Root3V
Secondary Voltage	-	110/Root 3V, 110/3V 110/Root 3V, 110/3V
Nominal Voltage	-	11 kV 33kV
Rated Highest Voltage	-	12 kV 36kV
Rated Power Frequency Withstand Voltage	-	28 kV 70kV
Lightning Impulse (BIL)	-	75 kV 170kV
Accuracy Class	-	For a) Metering: 0.1, 0.2, 0.2s, 0.5, 0.5s, 1.0 & 3.0 b) Protection: 3P, 6P
Burden	-	5 VA to 100 VA & As per customer requirement
Insulation Medium	-	Paper and Oil
Standard	-	IS2705, IS3156, IEC61869-1 & 61869-2, IEC 60044-1 & IEC 60044-2, IEEE C57.13 - 2008, IEEE C57.13 - 2016
ISF, ALF, VK, Ik, Rct	-	As per scheme and client requirement



Medium & High Voltage Outdoor Products

OUTDOOR OIL - COOLED CT / VT / PT

High Tension Outdoor Current Transformers

Construction	-	Oil Cooled
Type	-	Live & Dead Tank
Connection Type	-	As per client requirement
Number of Secondaries	-	As per scheme and client requirement
Frequency	-	50 Hz
Primary Current Rating	-	From 5A to 3000A For a) Metering: 0.1, 0.2, 0.2s, 0.5, 0.5s, 1.0 & 3.0
Secondary Current Rating	-	0.577A, 1A & 5A
Short Time Current (STC)	-	As per client requirement
Normal Voltage	-	11 kV 33kV
Rated Highest Voltage	-	12 kV 36kV
Rated Power Frequency Withstand Voltage	-	28 kV 70kV
Lightning Impulse (BIL)	-	75 kV 170kV
Insulation Level	-	12/28/75 KVp, 24/50/125 KVp & 36/70/170 KVp
Accuracy Class	-	For a) Metering: 0.1, 0.2, 0.2s, 0.5, 0.5s, 1.0 & 3.0 b) Protection: 5P10, 10P10, 5P15, 10P15, 5P20, 10P20 & PS
Burden	-	2.5 VA to 100 VA & As per customer requirement
Standard	-	IS2705, IS3156, IEC61869-1 & 61869-2, IEC 60044-1 & IEC 60044-2, IEEE C57.13 - 2008, IEEE C57.13 - 2016
ISF, ALF, VK, Ik, Rct	-	As per customer requirement



Medium & High Voltage Outdoor Products

DRY TYPE VOLTAGE TRANSFORMERS

- Made from high-quality cycloaliphatic/HECP epoxy resin.
- High glass transition temperature for durability.
- Excellent ultraviolet resistance.
- Strong ingress protection for secondary terminal box.
- Available in single-pole or double-pole designs.

Technical Specification

Construction	-	Resin Cast
Type	-	Cycloaliphatic Resin
Primary Current Rating	-	Up to 36kV
Secondary Current Rating	-	110/ $\sqrt{3}$ & 100/3
Number of Secondaries	-	Multiple
Frequency	-	50/60 Hz
Rated Lightning Impulse Withstand Voltage	-	Up to 200 kV
Standard	-	IS3156, IEC61869, ANSI
Accuracy Class	-	For a) Metering: 0.2, 0.5, 1.0, 3.0 For b) Protection: 3P & 6P
Burden	-	As per customer requirement



Medium & High Voltage Outdoor Products

COMBINED OIL COOLED CT – PT / CT- VT METERING SETS

- Designed for tariff metering
- Function: Measures electric current and voltage.
- Accuracy: Critical for billing accuracy.
- CT (Current Transformer): Steps down current
- Prevents Overloading: Avoids damage to meters.
- PT (Potential Transformer): Steps down voltage.
- Essential for Utilities: Ensures fair billing.
- Safety: Protects metering equipment.
Industry Standard: Widely used in utilities.
- Prevents Overloading: Avoids damage to meters.

Combined CT - PT/CT- VT Metering Sets

Construction	-	Oil Cooled
Primary Current Rating	-	Upto 400A
Secondary Current Rating	-	0.577A, 1A & SA
Insulation Level	-	12/28/75 KVp, 24/50/125 KVp & 36/70/170 KVp
Accuracy Class	-	For a) Metering: 0.1, 0.2, 0.2, 0.5, 0.5s, 1.0 & 3.0 For b) Protection: SP10, 10P10, SP15, 10P15, SP20, 10P20 & PS
Burden	-	Upto 40VA & Customer Requirement
Standard	-	IS2705, IS3156, IEC61869-1 & 61869-2



Medium & High Voltage Products

METERING CUBICLES

- Complete dust & vermin proof confirming to IP55 with locking and sealing arrangement. Separate meter compartment and CT compartment
- Separate meter compartment and CT compartment. No Secondary circuit wires are accessible outside which avoids chances of energy theft
- Used on feeder metering for energy accounting
- No Secondary circuit wires are accessible outside which avoids chances of energy theft
- Precision Revenue metering, control indication
- Used for double metering of Transformer

Technical Specification

Construction	-	Indoor Type
Type	-	Window, Bar & Wound
Primary Current Rating	-	As per customer requirement
Secondary Current Rating	-	1A & 5A
Accuracy Class	-	For a) Metering: 0.1, 0.2, 0.2s, 0.5, 0.5s, 1.0 & 3.0
Burden	-	Upto 40VA & Customer Requirement
Standard	-	IS2705, IS3156, IEC61869-1 & 61869-2



Medium & High Voltage Products

BUSHING CURRENT TRANSFORMERS

- Bushing Current Transformers (BCTs) are used for a variety of measuring, revenue metering and protection applications like for medium to high voltage circuit breakers, large power generators & power transformer applications.
- Each BCT is 100% routine tested to the specified standard.
- The advantages of assembly set:
 - Easy assembly
 - Different identification application for secondary (colour codes, plastic labels, etc.)
 - All the materials are anti-magnetic
 - They can be used for all measuring and protection applications.
- Our BCTs are designed and manufactured in accordance to customer specifications and can be tested to the applicable IEEE, IEC standards.
- Precision Revenue metering , control indication
- Woven polyester and polyester film, or their combination are used for their insulation.

Technical Specification

Rated primary current I_{pr}	-	Rated primary current I_{pr} Acc. To customer requirement
Rated secondary current I_s	-	1A , 5 A
Rated frequency	-	Rated frequency 50 Hz
Class rated burden VA	-	Acc. To customer requirement
Accuracy class	-	Acc. To customer requirement
Insulation level	-	0.72/3 kV
Rated short time thermal current I_{th}	-	Min 100* I_{pr}
Insulation Class	-	E or F
Standard	-	IS, IEC, ANSI, IEEE



Connecting Energy with Excellence

With **ALFA™**

Our Services – Substation & Electrical Infrastructure Works

At **Alfa Intercontinental Private Limited** we specialize in turnkey execution of power distribution projects, with proven experience of working under **Jodhpur Vidyut Vitran Nigam Ltd.** (JdVVNL) standards.

1. **Core Services** - Substation Erection (11kV / 33kV) - Complete survey, civil foundation, equipment erection, wiring, testing & commissioning.
2. **Overhead Line Works** - Supply & erection of 11kV / 33kV lines including poles, conductors, insulators & accessories.
3. **Underground Cabling Solutions** - Trenching, laying, jointing & termination of 11kV XLPE/HT/LT cables.
4. **LT Distribution Systems** - Installation of LT lines, distribution boxes, service connections & associated works.
5. **Testing & Commissioning** - Ensuring full compliance with Indian Electricity Rules, safety norms & utility specifications.
6. **Operation & Maintenance Support** - Performance monitoring, preventive checks & fault rectification.
7. **End-to-end EPC solutions** – from design and procurement to construction & commissioning of power substations.



Why Choose Us -

- **Executed multiple** turnkey projects under JdVVNL-approved contracts.
- **End-to-end capability:** Survey → Supply → Erection → Testing → Handover.
- **Skilled manpower** - certified supervisors & adherence to all safety and statutory compliances.
- **Timely completion** with guaranteed quality standards.

Our Trading Products

MIP Meter Box Gauge 18/24/36

- Provides a strong and secure enclosure for single-phase and three-phase electricity meters.
- Ensures electrical safety by preventing accidental contact and insulating live connections.
- Gauge 18/24/36 sheet metal construction makes it robust for long-term outdoor and industrial use
- Shields meters and internal components from rain, dust, and harsh outdoor conditions.
- Easy Maintenance & Accessibility – Designed with proper locking and opening mechanisms for convenient inspection, repair, and meter replacement.

Specification

Material	-	Metal
Dimensions	-	400x600 mm
Weight	-	15 kg
Ingress Protection	-	IP65
Mounting	-	Wall-mounted
Usage	-	Protects electricity meters from weather and tampering, providing secure and accessible metering.
Color	-	Gray
Features	-	Secure Metering, Weatherproof, Easy Access, Durable Design, Tamper Resistant
Product Type	-	Meter Box
Payment Terms	-	Cash in Advance (CID)
Main Domestic Market	-	All India
Brand Name	-	Alfa Intercontinental Private Limited



Our Trading Products

Secure Meters - Apex 150

- **High Accuracy:** All Secure meters are certified to international standards, ensuring precise and dispute-free billing.
- **Smart Monitoring:** Real-time consumption data via mobile app/web portals and IoT connectivity for remote monitoring.
- **Solar Panel Compatibility:** Dedicated products for net metering and solar energy measurement, optimizing consumption and grid feed-in
- **Durability:** Long-lasting design, resistant to environmental stressors for reliable service
- **Flexible Communication:** Support for protocols like DLMS, optical communication, modular upgradeability to future technologies
- **Prepayment Options:** Enables consumers to manage electricity budgets and avoid surprise billing.

Apex 150 - Specification

Connection type	HV3/HV4	Measurement voltage range	- 57.7 V or 63.5 V (L-N) for HV4, 100 or 110 V (L-L) for HV3
Measurement current range		I b: 1A or 5A (configurable)*, I _{max} up to 10A (configurable)*	
Frequency		- 50 Hz ±5%	
Accuracy		- Class 0.2S	
Maximum overload Voltage		- 1.5 times of nominal voltage continuously, 2 times of nominal voltage for 0.5 second	
Maximum overload current		- 1.5 times of I _{max} continuously	
Dimensions (W x H x D)		- 292mm x 201mm x 105mm (H x W x D)	
Ingress protection		IP54	
Operating temperature		-10 °C to + 60 °C	
Limit range of operation	-	- 25 °C to + 70 °C	
Storage temperature	-	- 40 °C to + 80 °C	
Temperature coefficient		- <0.1%/10 C	



Our Trading Products

Secure Meters - Apex 100

- **High Accuracy:** All Secure meters are certified to international standards, ensuring precise and dispute-free billing.
- **Smart Monitoring:** Real-time consumption data via mobile app/web portals and IoT connectivity for remote monitoring.
- **Solar Panel Compatibility:** Dedicated products for net metering and solar energy measurement, optimizing consumption and grid feed-in
- **Durability:** Long-lasting design, resistant to environmental stressors for reliable service.
- **Flexible Communication:** Support for protocols like DLMS, optical communication, modular upgrade ability to future technologies.
- **Prepayment Options:** Enables consumers to manage electricity budgets and avoid surprise billing.

Apex 100 - Specification

Connection type	CT/PT-operated
Wiring configuration	3-phase 3-wire, 3-phase 4-wire
Voltage range	- (L-N/L-L) 57.7/100 V to 69.3/120 V (configurable)*
Current range	- 1b: 1A or 5A (configurable)*
Imax:	- up to 10A (configurable)*
Accuracy	- Class 0.2s
Mains frequency	- 50 Hz \pm 5%
Burden	- As per compliance standards
Compliance Standards	- IEC 62053-24, IS 14697
Certification	- IS 15959 DLMS Indian companion standard, category
Dimensions (W x H x D)	- 19" rack (up to two meters) 428 x 133 x 260 mm approx 11" rack (single meter) 299 x 133 x 260 mm approx
Enclosure	- Translucent polycarbonate cover (with clear transparent window for display) and overall mild steel body



Our Trading Products

12kV Outdoor Vacuum Circuit Breaker (VCB)

- **Power Distribution Networks:** Used to switch, protect, and control medium voltage power distribution in utilities, substations, and industrial complexes.
- **Transformer & Switching Stations:** Integral for isolating and protecting transformers, switching substations, and main/auxiliary switchboards.
- **Renewable Energy Plants:** Essential for the safety and reliability of solar, wind, and other renewable power connections to the grid, protecting inverters and transformers.
- **Superior Arc Quenching:** Provides rapid arc extinction in faults, minimizing equipment damage and fire risk.
- **High Insulation & Safety:** Vacuum interrupter ensures high insulation strength and electrical safety even under severe operating conditions.
- **Low Maintenance:** Fewer moving parts and lack of arc residue result in exceptionally low maintenance requirements, lowering long-term costs.

Technical Specification

Paramet	-	Value/Features
Rated Voltage	-	12 kV
Rated Current	-	630 A
CT Ratio	-	400/200/100/5
Protection	-	C, EF, SC (as per AVVNL)
Short-Time Current	-	20-25 kA/3s
Insulation Withstand	-	28 kV power, 75 kV impulse
CT Accuracy Class	-	0.5 metering, 5P15 protection
Panel Type	-	Outdoor, air-insulated, weatherproof
IEC Standard	-	62271-10



Our Trading Products

36kV Outdoor Vacuum Circuit Breaker (VCB)

- **Power Distribution Networks:** Used to switch, protect, and control medium voltage power distribution in utilities, substations, and industrial complexes.
- **Transformer & Switching Stations:** Integral for isolating and protecting transformers, switching substations, and main/auxiliary switchboards.
- **Renewable Energy Plants:** Essential for the safety and reliability of solar, wind, and other renewable power connections to the grid, protecting inverters and transformers.
- **Superior Arc Quenching:** Provides rapid arc extinction in faults, minimizing equipment damage and fire risk.
- **High Insulation & Safety:** Vacuum interrupter ensures high insulation strength and electrical safety even under severe operating conditions.
- **Low Maintenance:** Fewer moving parts and lack of arc residue result in exceptionally low maintenance requirements, lowering long-term costs.

Technical Specification

Rated Voltage	- 33 kV (Highest system voltage: 36 kV)
Frequency	- 50 Hz
Rated Current	- 630 / 800 / 1250 / 1600 A
Number of Poles	- 3
Breaking Capacity	- 25 – 31.5 kA (Short-time withstand 3 seconds)
Power Frequency	- 70 kV rms (1 minute)
Enclosure Protection	- P55 or higher (Weatherproof)
Mounting	- Outdoor porcelain or polymer insulator type
Applications	- Distribution substations, transformer/feeder protection, renewable energy, industrial & railway networks



Our Trading Products

Remote Monitoring System with DC Analysis

- **Real-time Monitoring:** Continuous live monitoring of up to 10 solar inverters and their DC strings.
- **DC Analysis:** Detailed analysis of each inverter's DC parameters and string-level monitoring to detect anomalies instantly at the correct location.
- **Centralized Cloud Portal:** User-friendly, analytical dashboard with trend analysis and historic data for performance assessment and predictive maintenance.
- **Energy Meter Monitoring:** Monitors energy meters to ensure efficient energy transfer with minimal losses.
- **Weather Data Integration:** Tracks weather conditions at the site to analyze and predict generation losses, with instant alerting.
- **DG Synchronization:** Synchronizes solar systems with diesel generators locally for optimized hybrid operation and avoids net metering procedures.

Technical Specification

System Type	- Remote Monitoring System with DC Analysis
Supported Inverters	- Up to 10 string inverters
Monitoring Scope	- Real-time inverter & DC string level monitoring
Communication Protocols	- GSM/GPRS, Wi-Fi, RS-485 MODBUS TCP/IP
Data Access	- Cloud-hosted platform with secure login
Data Logging Frequency	- Configurable real-time intervals
Energy Meter Monitoring	- Supported
Weather Data Integration	- Supported (weather station integration)
Alert System	- Instant fault and anomaly alerts via SMS/email
DG Synchronization	- Supported for hybrid solar + DG operation
Installation	- Plug & play data logger with industrial-grade connectors
Compatible Inverter Brands	- DELTA and other major inverter brands
Maintenance & Update	- Remote configuration and firmware updates
Enclosure Protection	- Industrial grade, IP-rated enclosure



Our Trusted Partners



adani
Power



Genus
energizing lives



TATA
TATA POWER



CESC
LIMITED



KEDL
KOTA ELECTRICITY DISTRIBUTION
LIMITED



ABB



JKTYRE
TOTAL CONTROL



Mahindra

Our Testing Facilities

At **ALFA™ INTERCONTINENTAL PVT LTD** our state-of-the-art testing facilities are an integral part of our commitment to providing reliable, high-quality products and exceeding customer expectations in terms of precision, performance, and durability.



Eitel Sets

With more than 12 Eitel sets, we thoroughly check critical parameters, ensuring that our products meet the highest standard of performance and accuracy



Standard Current Transformer

with accuracy precision upto
0005 Accuracy Class



Standard Current Transformer

with accuracy precision upto
0005 Accuracy Class



Omicron CT Analyzer

Utilizing vacuum and APG casting machines, We achieve precision casting, resulting in superior product durability and performance.



Vacuum and APG Casting Machines

Automatic Resin Potting Machines

Our Testing Facilities

At **ALFA™ INTERCONTINENTAL PVT LTD** our state-of-the-art testing facilities are an integral part of our commitment to providing reliable, high-quality products and exceeding customer expectations in terms of precision, performance, and durability.

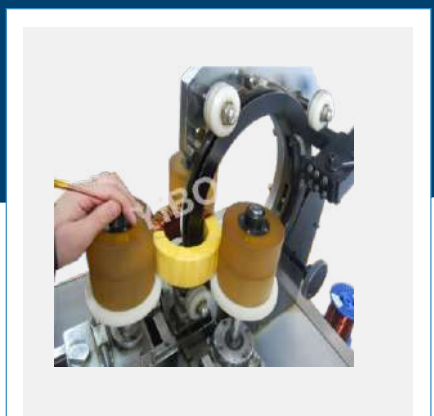


Automatic Resin Potting Machines



Automatic & Semi-Automatic CT & PT Winding Machines

With more than 15 automatic and semi-automatic winding machines, we ensure efficient and precise winding of coils for our transformers



Automatic & Semi-Automatic CT & PT Winding Machines

With more than 15 automatic and semi-automatic winding machines, we ensure efficient and precise winding of coils for our transformers



Specialized Partial Discharge Testing

With more than 2 Eltel sets, we thoroughly check critical parameters, ensuring that our products meet the highest standard of performance and accuracy.



Core Annealing Oven & Coiling Machines

With more than 2 Eltel sets, we thoroughly check critical parameters, ensuring that our products meet the highest standard of performance and accuracy.

Our Presence



Middle East

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- Qatar
- Dubai
- Bahrain
- UAE
- Saudi Arab
- Egypt
- Oman

Asia

- Philippines
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- Bhutan
- Nepal
- Sri Lanka

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