PADMAPAT ENGINEERS

Manufactures of All Type of Instrument Transformer Up to 132 KV

PRODUCT CATALOGUE

Delivering quality to Measurement

(An ISO 9001 : 2008 Certified Company)

PADMAPAT ENGINEERS

CORPORATE PROFILE

Padmapat Engineers has been in the business of designing, manufacturing and Supply of Instrument Transformers (CTs & PTs) with trade mark **PATANG**, to Domestic and Overseas customers from Public and Private Sector Organizations, engaged in the production, transmission and distribution of power for close to three decades.

Established in the year 2001 in Ajmer, Rajasthan, India, Padmapat Engineers's Product Portfolio primarily consists of All type of Current Transformers, Potential Transformers, CT-PT Combined Metering units and Metering Cubicles amongst others.

Apart from these Systems & Products such as Controllers, L&T, make energy meter, VFD's (INVT authorized stockiest (since 2009), AC & DC Drives, Servo Drives, PLC's are also offered by us.

We have Manufacturing Facilities at Ajmer for Instrument Transformer up to 132 KV, Panels for VFD's & DCS etc. We have Corporate Office as well as Factory at Ajmer where Engineering & Design work is carried out by our Team of Experts in Various Fields.

Padmapat Engineers has Branch Office in KANPUR. Kanpur is a center for excellence in Vibration Monitoring System, Turbo Supervisory System and DCS / PLC.

We work in design engineering & commissioning of 33KV/132KV complete substation with laying of transmission lines with two/Four pole structure since 2011

Padmapat Engineers's boasts of state-of-the-art infrastructure along with a multi-disciplinary team of experienced engineers, technicians, IT and administrative professionals.

Padmapat Engineers is an ISO 9001:2008 certified company and the Products are fully Type Tested in accordance with Standards such as ISS-2705 & 3156 and IEC-60044(1,2,3), 61869.

Padmapat Engineers breeds a spirit of technical innovation and specializes in designing and manufacturing customized Instrument Transformers based on client requirements. Padmapat Engineers scores high on customer satisfaction translating into repeat business from its clients.

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General Introduction

Transformers intended to supply power to measuring instruments, meters, relays, breakers and other similar apparatus are called Instrument Transformers. They are subdivided into

a) Current Transformers
b) Potential Transformers
c) CT-PT Combined Metering Units & Panels

CURRENT TRANSFORMERS (CT)

Direct measurement of current in High Voltage Systems is not possible due to problem of insulation for measuring instruments. It is also not possible to directly use current, flowing through the system due to problem of its high value and high insulation.

Current Transformers are therefore designed to:

I) reduce the line current to a value suitable for supply to measuring instruments, meters, relays, breakers etc.

ii) isolate measuring instruments from high voltage side of installation

iii) protect measuring instruments against short circuit current

iv) sense the fault in current and operate relays in order to isolate the faulty part of the system

POTENTIAL TRANSFORMERS (PT or VT)

Since it is difficult to measure high system voltage due to the problem of insulation of measuring instruments, the Potential Transformer is designed to measure High System Voltage by stepping it down to a value suitable for the measuring instrument.

Potential Transformers are designed to be used for:

I) metering, with single secondary winding

2) protection, in the event of an earth fault in any of the phases, to actuate a tripping mechanism

CT-PT COMBINED METERING UNITS & PANELS

Current and Potential Transformers are usually used as single phase units. However nowadays, the "Combined CT-PT units and metering panels" are the most commonly used variant of Current and Potential Transformers, especially while being used for Metering purposes for Single or Multi Ratios. At times, an additional core is provided too for Protection Purpose.

The Combined CT-PT Units and metering panels are used for "3 phase 3 wire metering system" or for "3 phase 4 wire metering system". In case of Combined CT-PT Units we use a single unit consisting of 2/3 single phase CTs and one 3 phase PT in place of 2/3 single phase CTs and 3 single phase PTs.

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CT-PT COMBINED METERING UNITS

11 KV

33 KV

3 Phase 4 wire with neutral solidly earthed system	**Having** : 3 Nos. CTs and 1 Nos . 3 Phase PT	
3 Phase 3 wire with neutral solidly earthed system	**Having** : 3 Nos. CTs and 1 Nos. 3 Phase PT	
GENERAL PARTICULARS	**METERING UNIT**	
Nominal System Voltage (kv)	11	33
Highest System Voltage (kv)	12	36
H V Power freq . withsand volt. for Primary Winding 1 Min (kv)	28	70
H V Power freq. withstand volt. for secondary Winding 1 Min (kv)	3	3
Impulse withstand voltage (kvp)	75	170
Rated Frequency (Hz)	50 Hz	
CURRENT TRANSFORMER	**POTENTIAL TRANSFORMER**	
Rated Burden: 2 .5 to 30 VA	Rated Burden: 10 to 100 VA	
Rated Primary Current (Amp): 2.5 Amp to 800 Amp	Rated Primary Voltage : 11 KV 33 KV	
Rated Secondary current (Amp) : 1 Amp to 5 Amp	Rated Secondary Voltage: 110 volt	
Rated Short Time Thermal Current: 3 KA to 25 KA for 1/3 second	Rated Voltage factor: 1.2 cont & 1.5 for 30 second	
Accuracy class (IS/IEC standard) : 0.2S; 0.2; 0.5S; 0.5; 1.0	Accuracy class (IS/IEC standard) : 0.2, 0.5, 1.0	
Rated Instrument Security factor : Less than 5		

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CURRENT TRANSFORMERS (CT)

11 KV

33 KV

66 KV

132 KV

Type - Resin Cast, Outdoor, Oil Minimum				
Nominal system voltage (kv)	11	33	66	132
Highest system voltage	12	36	72.5	145
Power frequency with stand voltage 1 min (kv)	28	70	140	275
Impulse withstand voltage (kvp)	75	170	325	650
Rated Burden	2.5 VA To 30 VA			
Rated Frequency (Hz)	50	50	50	50
Creepage Distance phase to earth (mm)	300	900	1815	3625
Rated primary current (Amp)	2 .5 Amp to 2000 Amp			
Rated continuos thermal current (Amp) (max)	125% of rated primary current			
Rated Secondary current (Amp)	1Amp to 5 Amp/as per client requir ements			
Rated short time thermal current	3 *KA TO* 40 *KA* for one/three second			
Rated dynamic cur rent (KA-peak)	2 .5 times of short time current			
Accuracy class (IS/IEC standard)	0.2S; 0.2, 0.5S,0.5, 1.0 for metering, IOP and PS for protection			
Rated instrument security factor	less than 5			
Rated accuracy limit factor	10,20,30			
Knee point voltage (PS Class)	As per customer requirements			

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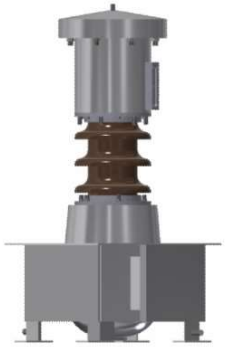
POTENTIAL TRANSFORMERS (PT)



11 KV

33 KV

66 KV

132 KV

Type - Resin Cast, Outdoor, Oil Cooled				
Nominal System Voltage(kv)	11	33	66	132
Highest System Voltage (kv)	12	36	72.5	145
Power frequency withstand voltage 1 min (kv)	28	70	140	275
Impulse withstand voltage (Kvp)	75	170	325	650
Rated Burden	10 VA To 500VA			
Rated frequency (Hz)	50	50	50	50
Creepage distance phase to earth (m.m)	300	900	1815	3625
Rated secondary voltage	110 volt, 110/√3 volt			
Rated voltage factor	1.2 cont G 1.5 for 30 second			
Accuracy class (IS/IES standard)	0.2, 0.5, 1.0, for metering 3P, 5P, 10P, for protection			

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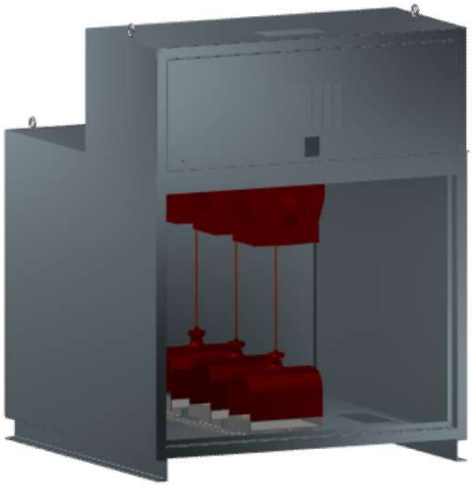
PILFER RESISTANT METERING CUBICLE



NOMINAL SYSTEM VOLTAGE (KV rms)	33
HIGHEST SYSTEM VOLTAGE (KV rms)	36
INSULATION LEVEL :	
a) IMPULSE WITHSTAND VOLTAGE(KV PEAK)	170
b) ONE MINUITE POWER FREQUENCY DRY WITHSTAND VOLTAGE (KV r.m.s)	
(i) PRIMARY(KV rms)	70
(ii) SECONDARY (KV rms)	3
RATED FREQUENCY (Hz)	50
FOR CURRENT TRANSFORMER	
TRANSFORMATION RATIO.	5/5A to 400/5A
RATED OUTPUT (VA BUDEN)	2.5 VA to 15 VA
CLASS OF ACCURACY.	0.5s /0.2s
SHORT TIME THERMAL CURRENT FOR THREE	
SECOND.(KA rms)	3.0 KA to 25 KA
RATED CONT. THERMAL CURRENT (KA rms)	1.2 times of rated primary current
FOR POTENTIAL TRANSFORMER	
RATED TRANSFORMATION RATIO	.33 KV/3/110V/3
RATED OUTPUT (VA BUDEN PER PHASE)	25 VA
CLASS OF ACCURACY.	0.5 /0.2
RATED VOLTAGE FACTOR AND TIME.	1.2 Continuous & 1.9 for 8 hours.

NOMINAL SYSTEM VOLTAGE (KV rms)	11
HIGHEST SYSTEM VOLTAGE (KV rms)	12
INSULATION LEVEL :	
a) IMPULSE WITHSTAND VOLTAGE(KV PEAK)	75
b) ONE MINUITE POWER FREQUENCY DRY WITHSTAND VOLTAGE (KV r.m.s)	
(i) PRIMARY(KV rms)	28
(ii) SECONDARY (KV rms)	3
RATED FREQUENCY (Hz)	50
FOR CURRENT TRANSFORMER	
TRANSFORMATION RATIO.	5/5A to 400/5A
RATED OUTPUT (VA BUDEN)	10 VA
CLASS OF ACCURACY.	0.2s & 0.5s
SHORT TIME THERMAL CURRENT FOR	
One SECOND.(KA rms)	3.0 KA to 25.0 KA
RATED CONT. THERMAL CURRENT (KA rms)	1.2 times of rated primary current
FOR POTENTIAL TRANSFORMER	
RATED TRANSFORMATION RATIO	11 KV/110V
RATED OUTPUT (VA BUDEN PER PHASE)	25 VA
CLASS OF ACCURACY.	0.2
RATED VOLTAGE FACTOR AND TIME.	1.2 Continuous & 1.9 for 8 hours.

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INDOOR TYPE INSTRUMENT TRANSFORMER

Particullars		11 KV	15 KV	22 KV	33 KV
Highest System Voltage	KV	12	17	24	36
Power Frequency dry with Stand Test Voltage	KVp (rms)	28	36	50	70
Lighting Impluse Voltage 1.2/50 µs	KVp	75	110	125	170
Partial Discharge Measuring Voltage /Limit	KV/PC	7.6 /50	10.8 /50	15.2 /50	23.0 /50
Transformation Ratio	Amp.	As per Customer Requirement			
Rated Primary Current	Amp.	Up to 2000 Amp.			
Rated Secondary Current	Amp.	1 .0 & 5.0			
Rated Secondary Voltage	Volts	63.5 for Ph. To Neutral, 110 for Ph. To Ph.			
Short Time Current Rating	KA(rms)	Up to 25.0 KA for 3 Sec.			
Output Burden	VA	Up to 40 For CT , Up to 100 For PT			
Accuracy Class	....				
Current Transformer	....	0.1, 0.2s, 0.2, 0.5s, 1.0, 5P & PS			
Potential Transformer	...	0.1, 0.2, 0.5, 1.0 & 3P			

PADMAPAT ENGINEERS

Our Another Product

Turnkey Solution for ABT Metering

Variable frequency Drives (LVD)

HT Meter Box

Variable frequency Drives (MVD)

Electrical & Instrumentation Panel

FRTU Panel Enclosure

PADMAPAT ENGINEERS

QUALITY & TESTING

Padmapat Engineers have manufacturing unit with well equipped with latest production and testing equipment, located in RIICO industrial area,Gegal, which is only 8.0 Km far from Kishangarh Airport & 20.0 km from Ajmer Railway Station. The state-of-the-art facilities are available in our factory for the following – all routine tests of instrument transformer including High Voltage Test, Partial Discharge Test & Tan Delta Testing facilities.

Head Office :
102, Phase-II, City Centre
The Mall, Kanpur(UP) - 208001
Telefax : +91 512 2332599
E-mail : info@padmapat.com
Phone : 5122330061

Factory :
H-103, RIICO Ind. Area,
Gegal, Ajmer (Raj.)-305023
Telefax : 0145 2791367
www.padmapat.com