

**COMPREHENSIVE
SOLUTIONS
FROM DESIGN
TO DELIVERY**



**INSTRUMENT
TRANSFORMER**

BANGLADESH'S 1ST EVER
132kV
INSTRUMENT TRANSFORMER

FIRST
132 kV
INSTRUMENT TRANSFORMER
IN BANGLADESH

DANGER

132000 VOLTS
Energypac

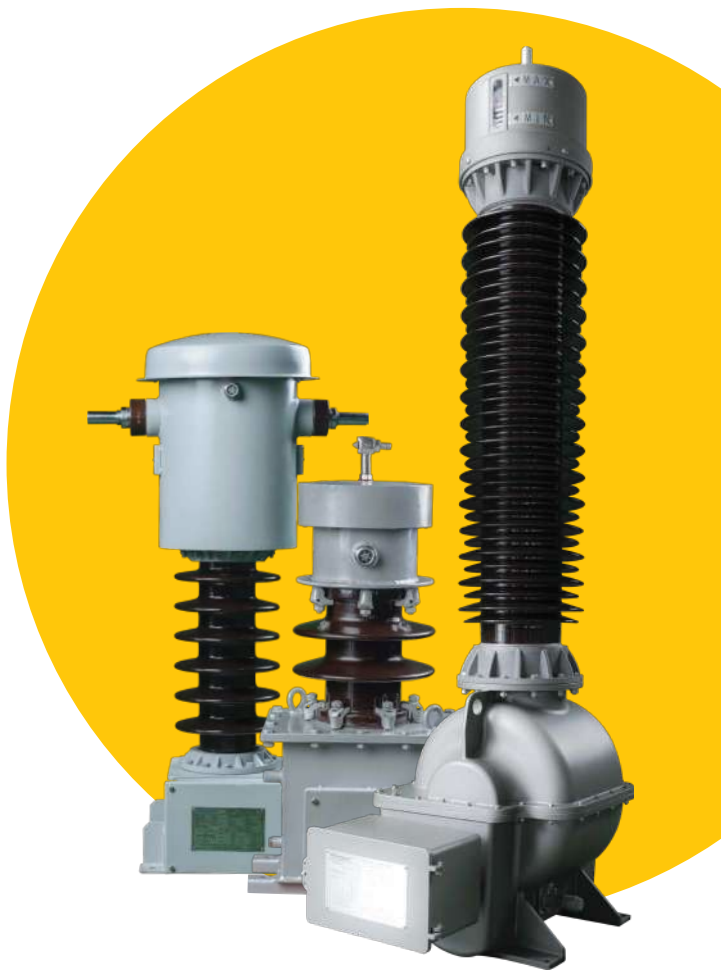
Client _____
Bangladesh Power Development Board (BPDB)

 Gopalganj, Bangladesh

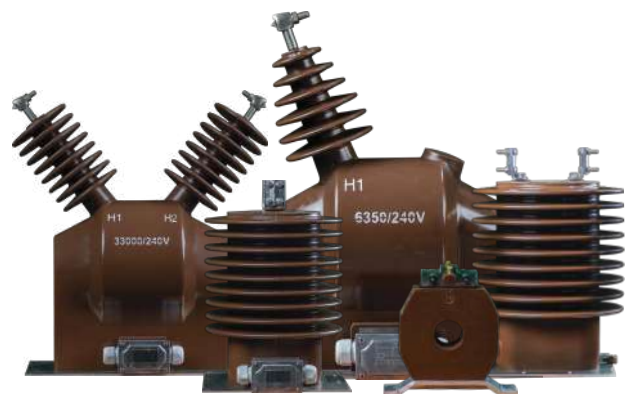
INDEX

Contents	Page
Instrument transformer	04
Technical data Current transformers, oil type up to 245kV	05
Technical data Current transformers, oil type up to 36kV	06
Technical data Potential transformers, oil type up to 245kV	07
Technical data Potential transformers, oil type up to 36kV	08
Technical data Current transformers-outdoor, dry type, up to 36kV	09
Technical data Potential transformers-outdoor, dry type up to 36kV	10
Technical data Current transformers-indoor, dry type up to 36kV	11
Technical data Potential transformers-indoor, dry type up to 36kV	12
Technical data Current transformer, dry type below 1.1kV	13
Technical data LT Current transformer ELC up to 3200A	14

INSTRUMENT TRANSFORMER



Energypac has been manufacturing reliable instrument transformers for more than 30 years. Instrument transformers are designed to provide reliable performance in accordance with latest stringent global design standards like IEC and IEEE/ANSI. This ensures a product with less maintenance, low weight, flexible mounting facilities, high reliability, high mechanical strength and high short circuit capability. The main applications are metering control, signal and protection. Instrument transformer plays a vital role in power system. Apart from Bangladesh, Energypac's instrument transformers are in successful operation worldwide including countries like Vietnam, Philippines and Nepal. Our products provide safe and reliable performance in both indoor and outdoor applications. The consistent research and development facilitates the introduction of new and innovative products in the market. The production process uses premium quality raw materials that are sourced internationally. This ensures longevity and reliability in operation. Additionally our products are type-tested to withstand the most severe of conditions. Energypac believes in providing customized solutions to meet any customer demands.



Categories

We manufacture products both current transformers (CTs) and potential transformers (PTs) up to 245kV and our products can be categorized roughly in three major parts depending on the voltage level namely low, medium and high voltage. However, 400kV current transformers and potential transformers are also available on request.

TECHNICAL DATA

CURRENT TRANSFORMERS, OIL TYPE

UP TO 245kV

Primary Current	From 5 to 3000A	From 5 to 3000A
Secondary Current	1 or 5A	1 or 5A
Number of Secondaries	As per scheme & client requirement	
Connection Type	As per client requirement	
Frequency	50 Hz	
Nominal Voltage	132kV	230kV
Rated Highest Voltage	145kV	245kV
Rated Power Frequency Withstand Voltage	275kV	460kV
Lightning Impulse (BIL)	650kV	1050kV
Standard	IEC 60044-1 & 600442, IEC 61861-1, IEC 618612, IEC 61861-3, IEEE C57.13-2008, IEEE C57.13	
Short Time Current (STC)	17, 25, 31.5, 40, 50kA/3sec	
Burden	2.5 to 100VA (As per requirement)	
Accuracy Class for CT	Metering: 0.1, 0.2, 0.2S, 0.5, 0.5S, 1.0, 3.0	
ISF, ALF, Vk, Ik, Rct	Protection: 5P, 10P, X	
Insulation Medium	As per scheme & client requirement	
Creepage of Bushings	Paper and Oil	
	25mm/kV (As per requirement)	

*400kV current transformer also available on request.

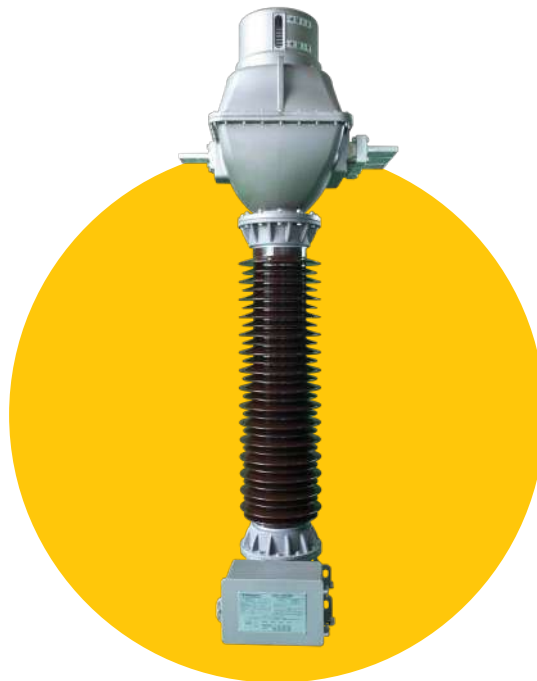


Fig. HV current transformer, oil type

TECHNICAL DATA

CURRENT TRANSFORMERS, OIL TYPE

UP TO 36kV

Primary Current	From 5 to 3000A	From 5 to 3000A
Secondary Current	1 or 5A	1 or 5A
Number of Secondaries	As per scheme & client requirement	
Connection Type	As per client requirement	
Frequency	50 Hz	
Nominal Voltage	11kV	33kV
Rated Highest Voltage	12kV	36kV
Rated Power Frequency Withstand Voltage	28kV	70kV
Lightning Impulse (BIL)	75kV	170kV
Standard	IEC 60044-1 & 60044-2, IEC 61861-1, IEC 618612, IEC 3, IEEE C57.132008, IEEE C57.13	
Short Time Current (STC)	17, 25, 31.5, 40kA/3sec	
Burden	2.5 to 100VA (As per requirement)	
Accuracy Class for CT	Metering: 0.1, 0.2, 0.2S, 0.5, 0.5S, 1.0, 3.0	
	Protection: 5P, 10P, X	
ISF, ALF, Vk, Ik, Rct	As per scheme & client requirement	
Insulation Medium	Paper and Oil	
Creepage of Bushings	25mm/kV (As per requirement)	



Fig. MV current transformer, oil type

TECHNICAL DATA

POTENTIAL TRANSFORMERS, OIL TYPE

UP TO 245kV

Primary Voltage	132/ $\sqrt{3}$ kV	230/ $\sqrt{3}$ kV
Secondary Voltage	110/ $\sqrt{3}$, 110/3V	110/ $\sqrt{3}$, 110/3V
Number of Secondaries	As per scheme & client requirement	
Frequency	50 Hz	
Nominal Voltage	132kV	230kV
Rated Highest Voltage	145kV	245kV
Rated Power Frequency Withstand Voltage	275kV	460kV
Lightning Impulse (BIL)	650kV	1050kV
Standard	IEC 60044-1 & 60044-2, IEC 61861-1, IEC 61861-2, IEC 61861-3, IEEE C57.132008, IEEE C57.13	
Burden	5 to 200VA (As per requirement)	
Voltage Factor	1.2 Continuous	
Accuracy Class	Metering: 0.1, 0.2, 0.2S, 0.5, 0.5S, 1.0, 3.0	
	Protection: 3P, 6P	
Insulation Medium	Paper and Oil	
Creepage of Bushings	25mm/kV (As per requirement)	

*400kV potential transformer also available on request.



Fig. HV potential transformer, oil type

TECHNICAL DATA

POTENTIAL TRANSFORMERS, OIL TYPE

UP TO 36kV

Primary Voltage	11000/ $\sqrt{3}$ V	33000/ $\sqrt{3}$ V
Secondary Voltage	110/ $\sqrt{3}$, 110/3V	110/ $\sqrt{3}$, 110/3V
Number of Secondaries	As per scheme & client requirement	
Frequency	50 Hz	
Nominal Voltage	11kV	33kV
Rated Highest Voltage	12kV	36kV
Rated Power Frequency Withstand Voltage	28kV	70kV
Lightning Impulse (BIL)	75kV	170kV
Standard	IEC 60044-1 & 60044-2, IEC 61861-1, IEC 61861-2, IEC 61861-3, IEEE C57.13-2008, IEEE C57.13-2016	
Burden	5 to 200VA (As per requirement)	
Voltage Factor	1.2 Continuous	
Accuracy Class	Metering: 0.1, 0.2, 0.2S, 0.5, 0.5S, 1.0, 3.0	
	Protection: 3P, 6P	
Insulation Medium	Paper and Oil	
Creepage of Bushings	25mm/kV (As per requirement)	

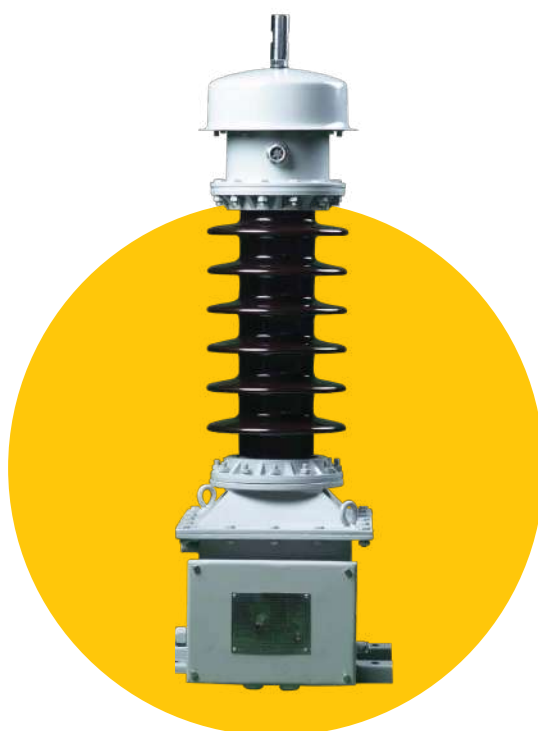


Fig. MV potential transformer, oil type

TECHNICAL DATA

CURRENT TRANSFORMERS-OUTDOOR, DRY TYPE, UP TO 36kV

Primary Current	From 15 to 600A	2x15A	2x50A	2x150A	From 50 to 600A	2x100A	2x150A
Secondary Current	5A	5A	5A	5A	5A	5A	5A
Number of Secondaries	1 (Metering)						
Connection Type		Primary Reconnection				Primary Reconnection	
Frequency	50 Hz						
Rated Highest Voltage	15.5kV			36.5kV			
Rated Power Frequency Withstand Voltage	34kV			70kV			
Rated Lightning Impulse Withstand Voltage	110kV			200kV			
Standard	IEEE C57.13						
Short Time Thermal Current	15kA for 3 sec			20kA for 3 sec			
Burden	B-0.5			B-2			
Accuracy Class	0.3			0.3			
Dimensions of Resin Body:							
Length (mm)	250 ± 3			340 ± 4			
Width (mm)	250 ± 3			340 ± 4			
Height (mm)	350 ± 5			410 ± 5			
Overall Dimensions Including Base Plate and Terminals:							
Length (mm)				350 ± 4			
Width (mm)	325 ± 3			365 ± 4			
Height (mm)	420 ± 10			485 ± 10			

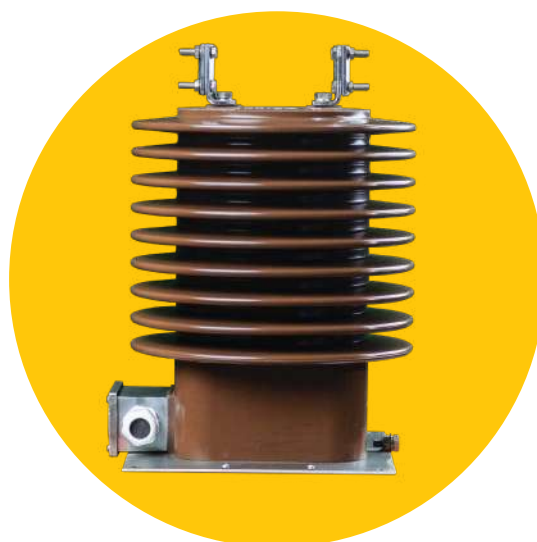


Fig. MV outdoor current transformer, dry type

TECHNICAL DATA

POTENTIAL TRANSFORMERS-OUTDOOR, DRY TYPE

UP TO 36kV

Primary Voltage	11000/ $\sqrt{3}$ V	11000V	33000V	33000/ $\sqrt{3}$ V	33000V
Secondary Voltage	240V	240V	240V	240V	240V
Number of Secondaries	1 (Metering)	1 (Metering)	1 (Metering)	1 (Metering)	
Frequency	50 Hz				
Rated Highest Voltage	15.5kV	17.5kV	36kV	36.5kV	
Rated Power Frequency Withstand Voltage	34kV	38kV	70kV		
Rated Lightning Impulse Withstand Voltage	110kV	95kV	170kV	200kV	
Standard	IEEE C57.13	IEC 60044-2, IEC 61869-3		IEEE C57.13	
Voltage Factor	1.2 Un Continuous				
Burden	Y	300	500	Y	Y
Accuracy class	0.3	3	3	0.3	0.3
Dimensions of Resin Body:					
Length (mm)	380		415		
Width (mm)	245		290		
Height (mm)	540		610		
Overall Dimensions Including Base Plate and Terminals:					
Length (mm)	500 \pm 5		550 \pm 6		
Width (mm)	275 \pm 5		318 \pm 5		
Height (mm)	600 \pm 10		650 \pm 10		



Fig. MV outdoor potential transformer, dry type

TECHNICAL DATA

CURRENT TRANSFORMERS-INDOOR, DRY TYPE

UP TO 36kV

Primary Current	15A	30A	From 60 to 800 A	2x200A	2x300A	1000-2000A	600-1200, 900-1800A	800-1600A	150A
Secondary Current	5A	5A	5A	5A	5A	5A	5A	5A	5A
Number of Secondaries	1 (Metering)		2 (1 Metering & 1 Protection)			3 (1 Metering & 2 Protection)		2 (1 Metering & 1 Protection)	
Connection Type				Primary Reconnection		Secondary Reconnection			
Frequency	50 Hz								
Rated Highest Voltage	12kV							36kV	
Rated Power Frequency Withstand Voltage	28kV							70kV	
Rated Lightning Impulse Withstand Voltage	75kV							170kV	
Standard	IEC 60044-1, IEC 61869-2								
Short Time Thermal Current	25kA for 3 sec			31.5kA for 3 sec					25kA for 3 sec
Burden	10VA	10VA	10,15VA	30VA	20VA	20VA	30VA	20VA	20VA
Accuracy class	0.5	0.5	0.5,5P10	0.2, 5P20			0.2, 5P20, 5P20		0.2, 5P20
Dimensions of Resin Body									
Length (mm)	180 ± 2	165 ± 2	225 ± 2	280 ± 3		330 ± 3		320 ± 4	
Width (mm)	165 ± 2	165 ± 2	165 ± 2	180 ± 2		200 ± 2		240 ± 3	
Height (mm)	250 ± 3	250 ± 3	250 ± 2	300 ± 3		250 ± 2		352 ± 4	
Overall Dimensions Including Base Plate and Terminals									
Length (mm)	255 ± 3	255 ± 3	300 ± 3	405 ± 4		385 ± 3		385 ± 3	
Width (mm)	165 ± 2	165 ± 2	165 ± 2	180 ± 2		200 ± 2		240 ± 2	
Height (mm)	296 ± 4	296 ± 4	292 ± 3	350 ± 2		293 ± 3		400 ± 5	

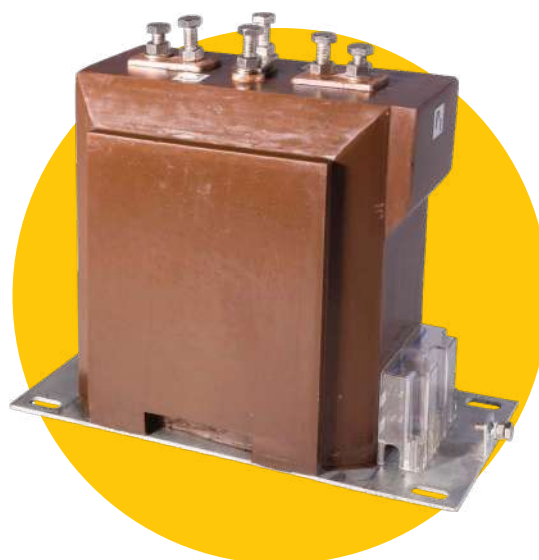


Fig. MV indoor current transformer, dry type

TECHNICAL DATA

POTENTIAL TRANSFORMERS-INDOOR, DRY TYPE

UP TO 36kV

Primary Voltage	11000/ $\sqrt{3}$ V					11000V		33000/ $\sqrt{3}$ V
Secondary Voltage	110/ $\sqrt{3}$ V	110/ $\sqrt{3}$, 110/ $\sqrt{3}$ V	110/ $\sqrt{3}$, 110/ $\sqrt{3}$ V	110/ $\sqrt{3}$,110/ $\sqrt{3}$,110/ $\sqrt{3}$ V	110/ $\sqrt{3}$,11 0/ $\sqrt{3}$,110/ 3V	110V	110V	110/ $\sqrt{3}$,110/ $\sqrt{3}$ V
Number of Secondaries	1 Metering	2 (1 Metering & 1 Protection)		3 (2 Metering & 1 Protection)		1 (Metering)	1 (Metering)	2 (1 Metering & 1 Protection)
Frequency	50 Hz							
Rated Highest Voltage	12kV							36kV
Rated Power Frequency Withstand Voltage	28kV							70kV
Rated Lightning Impulse Withstand Voltage	75kV							170kV
Standard	IEC 60044-2, IEC 61869-3							IEC 60044-2, IEC 61869 3
Voltage Factor	1.5 Un for 30 sec		1.9 Un for 8 hr	1.2 Un Continuous	1.5 Un for 30 sec	1.2 Un Continuous	1.5 Un for 30 sec	1.5 Un for 30 sec
Burden	10VA	10,50VA	50VA	50VA		10VA	50VA	50VA
Accuracy class	0.5	0.2,3P	0.2,6P	0.2,0.2,3P		0.2	0.2	0.2, 3P
Dimensions of Resin Body:								
Length (mm)	300 ± 3					300 ± 3		340 ± 4
Width (mm)	170 ± 2					165 ± 2		250 ± 3
Height (mm)	270 ± 3					285 ± 3		362 ± 4
Overall Dimensions Including Base Plate:								
Length (mm)	405 ± 4					405 ± 4		390 ± 4
Width (mm)	170 ± 2					170 ± 2		250 ± 3
Height (mm)	310 ± 3					321 ± 3		400 ± 4

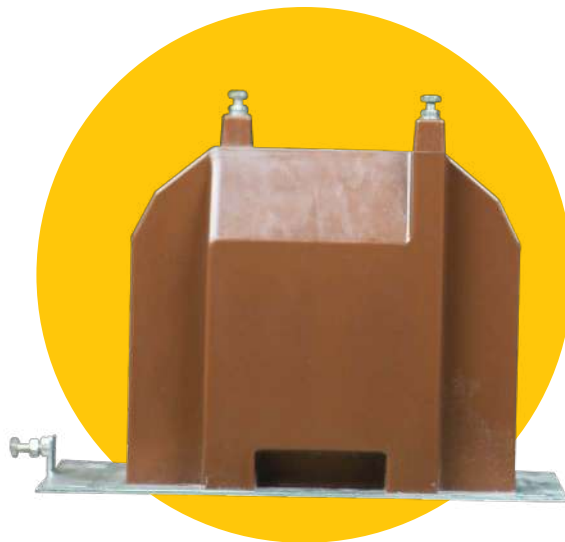


Fig. MV indoor potential transformer, dry type

TECHNICAL DATA

CURRENT TRANSFORMER, DRY TYPE

BELOW 1.1kV

Type	Rectangular Window Type CT	Ring CT
Nominal Voltage, Un	415, 433, 600V	415, 433V
Standard	IEC 60044-1 & 60044-2, IEC 61869-1, IEC 61869-2, IEC 618693, IEEE C57.13-2008, IEEE C57.13-2016	
Insulation Medium	Insulating Tape, Resin	Epoxy Resin, Insulating Tape
Core	Rectangular Shape	Toroidal
Primary Current	Up to 5000A	10A to 5000A
Secondary Current	1A or 5A	
Burden	From 5VA to 100VA (As per requirement)	
ISF, ALF, Vk, Ik, Rct	As per client requirement	
Short Time Current (STC) (kA)	As per client requirement	
Tapping	As per scheme & client requirement	
Accuracy Class	Metering: 0.1, 0.2, 0.2S, 0.5, 1.0, 3.0	Metering: 0.1, 0.2, 0.2S, 0.5, 1.0, 3.0
	Protection: 5P, 10P	Protection: 5P, 10P

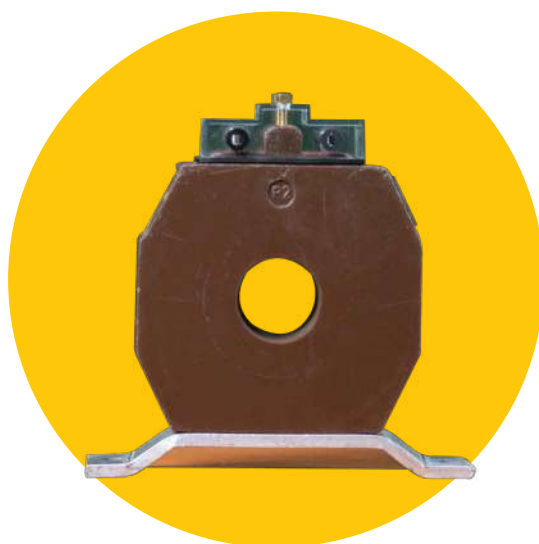


Fig. LV current transformer, dry type

TECHNICAL DATA

LT CURRENT TRANSFORMER ELC UP TO 3200A

PRODUCT SCOPE

ELC low voltage indoor current transformers: for cables and busbars.

Primary current 50-3200A.

Types: ELCi, ELCii, ELCiii, ELCiv & ELCv

KEY BENEFITS

- LV CT indoor high accuracy current transformer for metering or relay applications
- Suitable for installation DIN rail and as stand alone
- Durable dry-type design that offers high accuracy for metering applications
- Applicable for cables and busbar

KEY FEATURES

- For rated primary currents from 50A to 3200A
- Applicable for busbar
- Applicable for cable (diameter 21 - 53 mm)

Energypac Engineering Ltd. is producing five types of the ELC current transformer intended for mounting on a cable (\varnothing 21, 30, 33 or 53 mm) or on a busbar (up to 40 mm x 13 mm / 2 x 30 mm x 10 mm, 125 mm x 60 mm or 60 mm x 15 mm / 2 x 50 mm x 10 mm / 40 mm x 40 mm).

Rated primary current from 50 up to 3200A depending on type.



Details	Product Types				
	ELCi	ELCii	ELCiii	ELCiv	ELCv
Rated primary current	150A to 800A	50A to 500A	75A to 600A	600A to 3200A	200A to 2000A
Rated secondary current	5A or 1A	5A or 1A	5A or 1A	5A or 1A	5A or 1A
Rated power	1.5- 10VA	1- 10VA	1- 15VA	5- 20VA	2.5- 20VA
Accuracy class	0.5 / 1	0.5 / 1	0.5 / 1	0.5 / 1	0.5 / 1
Compatible round conductor	\varnothing 33mm	\varnothing 21mm	\varnothing 30mm		\varnothing 53mm
Compatible primary bar	40mm x 13mm / 2 x 30mm x 10mm			125mm x 60mm	60mm x 15mm / 2 x 50mm x 10mm / 40mm x 40mm

*Can be customized to different configurations from that of the chart according to client requirements

EXPLORE OUR PRODUCTS

1

Open your camera or QR code scanner. Point your



2

Wait for camera to recognize and scan QR code




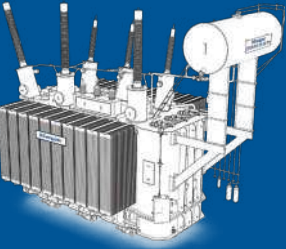
3

Click proceed or view QR code details, when appears



4

Click the **link** or "visit url" or "go to website" to read the information



POWER TRANSFORMER





DISTRIBUTION TRANSFORMER (OIL FILLED)



DISTRIBUTION TRANSFORMER (DRY TYPE)



INSTRUMENT TRANSFORMER



VACUUM CIRCUIT BREAKER



SWITCHGEAR



BUSBAR TRUNKING SYSTEM



Hotline Number
01777 78 11 88

Energypac[®]

Engineering



Head Office

Energy Center, 25 Tejgaon I/A,
Dhaka-1208, Bangladesh
Phone: +880-2-8879395
Sales: +880 1777 781188
Email: marketing@energypac.com.bd
www.energypac.com.bd

Chittagong Office

House 2, Lane 5, Road 1, Block L,
Halishahar Housing Estate,
Chittagong-4216, Bangladesh
Phone: +880-3-1723807
Fax: +880-3-12514341, +880-3-1715473

Khulna Office

84, Khan Jahan Ali Road,
Khulna-9100, Bangladesh
Phone: +880 1777 781188

Rajshahi Office

35, Terokhadia, Cantonment Road,
Rajshahi Cantonment-6202, Bangladesh
Phone: +880 1713 147022

Bogura office

Shamsunnahar Plaza, College Road,
Kalitola, Bogura-5800
Phone: +880 1713 147041

India Office

KB-22, Bhakta Tower, 4th Floor, Sector 3,
Salt Lake, Kolkata-700098, India
Phone: +91 833 692 02 58
Email: marketing@energypacindia.in
sales@energypacindia.in

Nepal Office

Aayusha Colony, House 4, Kalanki 13,
Kathmandu, Nepal
Phone: +97 798 03 64 57 01
Email: export@energypac.com.bd

Italy Office

Via Dei Prati, 27-25073 Bovezzo (BS)
Phone: +39 030 205 91 49
Fax: +39 030 209 66 02
Email: alessandro.gallo@energypac-europe.com
export@energypac.com.bd

Works

Baroipara, Savar
Dhaka-1750, Bangladesh
Phone: +880 1713 285625

Dakshin Joypur Bill,
PO: Ananda Nagar,
Liluah, Howrah-711227
West Bengal, India
Phone: +91 833 690 69 34
+91 833 690 69 35

Via Conicchio, 49/A,
Brescia-25136, Italy
Phone: +39 030 205 91 49



Made in Bangladesh

crafted
with pride