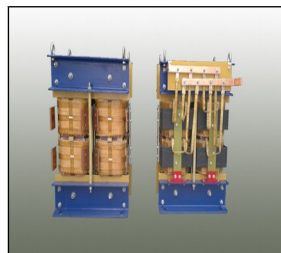
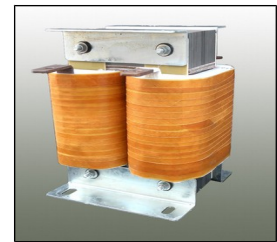
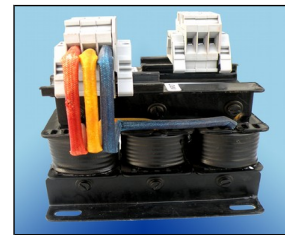
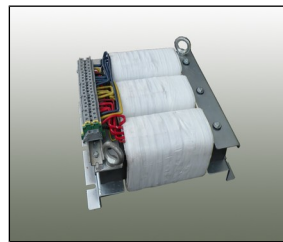




PRIMA TRANSFORMERS PVT. LTD.



TRANSFORMING YOUR NEEDS

INDEX

CHAPTER-1: ABOUT PRIMA

CHAPTER-2: PRODUCT RANGE

CHAPTER-3: GROWTH PARTNERS

CHAPTER-4: CREDENTIALS OF PRIMA

CHAPTER-5: APPROVAL FROM ERDA AND CUSTOMERS

CHAPTER-6: TEST CARRIED OUT ON THE TRANSFORMERS.

CHAPTER-7: CUSTOMER GUIDELINE TO ORDER

CHAPTER-8: INFORMATION DESK FOR CUSTOMER.

CHAPTER-9: WHY PRIMA TRANSFORMERS PVT. LTD.???

CHAPTER-1

ABOUT PRIMA

Prima Transformers Pvt. Ltd is 100% subsidiary of Prima Automation (India) Pvt. Ltd. Incorporated in 2006.

Prima Transformers Pvt. Ltd is renown name in Control transformers. It was established in 2006 and since than playing a leading role in supplying Control Transformers to more than 30 OEMS. The Company's range includes transformers form 50VA to 1500KVA, chokes up to 2000KW, Servo Stabilizers and Distribution transformers.

PRIMA Automation is an organization in the field of manufacturing of control panels with PC, PLC and SCADA based systems for the automation of various plant and machineries of many industries, Micro-Controller based panels and Special panels for hazardous area application like Flameproof, Pressurized and Intrinsically safe and many other control components. As time passes PRIMA has recorded its growth exponentially.

In the professional journey of two decades, PRIMA has expanded to match global vision and progressed forward steadily through up-gradation of technology and consolidation programs to further strengthen its capabilities. The company uses large qty. of Transformers. As a business diversification and backward integration Prima decided to manufacturing of Transformers. In the New Company enjoys capital inputs as well as Technical know how from Prima Automation (India) Pvt. Ltd. The entire set of **Prima Transformers Pvt. Ltd** including manpower is established by Prima Automation (India) Pvt. Ltd..

"Innovation and forward thinking are key words in Business Enterprises, that is why we have chosen the demanding area of Industrial Transformers. An area where challenges are many and solutions difficult.

Main aim of the **Prima Transformers Pvt. Ltd** is to make quality class Transformers with CE marks.

Prima Transformers Pvt. Ltd has manufacturing unit at Santej having about 5500 Sq. meter plant area with latest manufacturing facility.



TRANSFORMING YOUR NEEDS

CHAPTER-2

PRODUCT RANGE

Product Specification And Range				
SR NO	NAME OF THE STORE	SPECIFICATION TO WHICH STORES ARE MANUFACTURED	QUALITATIVE CAPACITY	CAPACITY PER MONTH SINGLE SHIFT BASIS
1	Control Transformer	Confirms to IS : 11171 : 1985	50VA to 500KVA	3000 No
2	Power Transformer	Confirms to IS : 2026 : 1977	1 KVA to 500KVA	
3	Isolation Transformer	Confirms to IS : 11171 : 1985	1kVA to 500KVA	
4	Energy Saving Lighting Transformer	Confirms to IS 11171 : 1985	Up to 500 KVA	
5	Ultra isolation Transformer	Confirms to IS : 11171 : 1985	1 KVA to 500KVA	
6	Auto Transformer / ATS	Confirms to IS : 11171 : 1985	5HP To 500HP	
7	Line / Load Reactor (Choke)	Confirms to IS 6297 : 1971	5HP To 500HP	
8	LT Current Transformer	Confirms to IS 2705 : 1992	230V to 750V	
9	LT Potential Transformer	Confirms to IS 3156 : 1992	230V to 750V	
10	HT Current Transformer	Confirms to IS 2705 : 1992	6.6KV to 33KV	
11	HT Potential Transformer	Confirms to IS 3156 : 1992	6.6KV to 33KV	
12	Distribution Transformer (DRY type VPI , CRT , Oil cooled)	Confirms to IS 1180 : 1989	Up to 1500 KVA	
13	Customized Transformer	As Per Customer requirement	50VA to 1500KVA	
14	Installation and commissioning of Transformer	As Per Customer requirement	As Per Customer requirement	

CHAPTER-3

GROWTH PARTNERS

- GE ENERGY
- SIEMENS
- EMERSON
- JYOTI CNC
- BHEL
- ROLLS ROYCE
- VEDANTA GROUP
- ADANI GROUP
- RELIANCE INDUSTRIES LTD
- PRASAD & PRASHANT GROUP
- JINDAL STEEL & POWER
- TATA MOTORS
- WELSPUN LIMITED

CHAPTER-4

CREDENTIALS OF PRIMA

- ISO 9001:2008 COMPANY
- CE APPROVED
- APPROVED VENDOR OF BHEL
- APPROVED VENDOR OF SUZLON
- APPROVED VENDOR OF RELIANCE INDUSTRIES LIMITED
- APPROVED VENDOR OF VEDANTA GROUP
- APPROVED VENDOR OF ADANI POWER LTD.
- APPROVED VENDOR OF NORTHERN Railway.

CERTIFICATE OF REGISTRATION



Prima Transformers Pvt. Ltd.

Plot No. 809 / 2, Kothari Cross - Road, Santej - 382 721
Ta. Kalol, Dist. Gandhinagar, Gujarat INDIA

This is to certify that the Quality Management System
of above organisation has been assessed and registered by
Nimbus Certifications Private Limited against the scope of supply and provision of

ISO 9001:2015

Scope : Manufacture & Supply of Whole Range of Magnetics.

Certificate No. : GUJ / Q - 1297/C2

Initial Cert Date: 16 December 2012

Certificate Date : 16 December 2015

Valid Until : 15 December 2018

EAC Code : 19

Managing Director

This registration is subject to the company maintaining a management system, to the above standard,
which will be monitored by Nimbus Certifications Pvt. Ltd.

This is an accredited certificate authorised for issued by Accreditation Services for Certifying Bodies (Europe) Limited
in accordance with ISO 17021 : 2011 "Requirement for Bodies providing Audit and Certification of Management Systems".

This certificate is the property of Nimbus Certification Pvt. Ltd. and must be returned on request.
This certificate is only valid when confirmed by data listed in the International Register of Quality
Assessed Organisations: www.irqao.com. The status of this certificate may be verified at www.nimbuscertifications.com

Nimbus Certification Pvt. Ltd.
#3, New Ashok Nagar B, Vazira, Borivali (W), Mumbai-400091. India.



CERTIFICATE OF REGISTRATION



Prima Transformers Private Limited

Plot No. 809 / 2, Kothari Cross - Road, Santej - 382 721
Taluka: Kalol, District: Gandhinagar Gujarat INDIA

This is to certify that the Product Requirements of the of above organisation
has been assessed under Low Voltage Directive EU 2006 / 95 / EC by
Nimbus Certifications Private Limited applicable to following products for

CE MARKING

Products : * Transformer Up to 1 MVA
* Line - Load Reactor Up to 2000 KW
* Current Transformer
* Potential Transformer
* Auto Transformer Up to 1 MVA
* Auto transformer starter up to 350HP/260KW

Certificate No. : GUJ / C - 3030 - C2
Initial Cert Date : 17 October 2011
Certificate Date : 17 October 2014
Valid Until : 16 October 2017
EAC Code : 19

Managing Director



0801-1

This certificate is issued against the sample meeting the Essential Safety Requirements for the above Directive.
The sample is tested against EN 61558 vide Test reports dated 19th, September 2008 and has been registered
on the request of the manufacturer by Nimbus Certifications Private Limited.

This Certificate is the result of Tests carried out on samples and does not represent the serial production of these products.

This certificate is the property of Nimbus Certification Pvt. Ltd. and must be returned on request.
The status of this certificate may be checked at www.nimbuscertifications.com
Nimbus Certifications Private Limited.
#3, New Ashok Nagar B, Vazira, Borivali (West), Mumbai-400 091 INDIA

CHAPTER-5

TESTING APPROVAL FROM ERDA AND CUSTOMER



Certificate No. : T-0071

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382


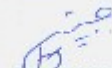

E-mail : erda@erda.org

Web : http://www.erda.org



TEST REPORT

SHEET : 1 of 6

<p>NAME & ADDRESS OF CUSTOMER</p> <p>M/S. PRIMA TRANSFORMERS PVT.LTD, PLOT NO.:809/2,KOTHARI CHAR RASTA, SANTEJ-382721,TAL.KALOL, DIST.GANDHINAGAR, GUJARAT,INDIA.</p>	<p>REPORT NO. : RP-1314-001550 DATE : 24.05.2013</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">CUSTOMER REF.NO.</th> <th style="width: 50%;">DATE</th> </tr> <tr> <td style="text-align: center;">NIL</td> <td style="text-align: center;">18.02.2013</td> </tr> <tr> <th>DATE OF SAMPLE RECEIPT</th> <th>DATE OF TESTING</th> </tr> <tr> <td style="text-align: center;">08.03.2013</td> <td style="text-align: center;">11.03.2013</td> </tr> </table>	CUSTOMER REF.NO.	DATE	NIL	18.02.2013	DATE OF SAMPLE RECEIPT	DATE OF TESTING	08.03.2013	11.03.2013
CUSTOMER REF.NO.	DATE								
NIL	18.02.2013								
DATE OF SAMPLE RECEIPT	DATE OF TESTING								
08.03.2013	11.03.2013								
<p>SAMPLE DESCRIPTION</p> <p>DRY TYPE TRANSFORMER MFD. BY : PRIMA TRANSFORMERS PVT.LTD. RATING : 750 kVA VOLTS :11000/433 V CURRENT :39.4/1000 Amps. PHASES : 3/3 WINDING : Copper VECTOR GROUP : Dyn11 FREQUENCY: 50 Hz CLASS OF INSULATION : H % IMPEDANCE VOLTAGE:5.25% GTD.NO LOAD LOSS:1750 Watts GTD.LOAD LOSS AT 75 °C:8200 Walls MAX.AMBIENT TEMP.: 50 °C GTD.MAX.TEMP.RISE OF WINDING:115 °C</p>	<p>SAMPLE IDENTIFICATION</p> <p>ERDA SAMPLE CODE No. : ERDA-00000959 SERIAL NO. : 112 COOLING : AN YEAR OF MFG.:2011 ENCL.DRAWING:1) D003047HTR 2) B0905823DS</p>								
<p>TEST DETAILS As per sheet 2 of 6.</p>	<p>TEST SPECIFICATION As per sheet 2 of 6.</p>								
<p>TEST RESULTS : As per sheets 3 of 6 to 6 of 6.</p>									
<p>TEST WITNESSED BY : 1) Mr. Ajit Pimple (Director-M/s.Prima transformers pvt.ltd.)</p>									
<p>REMARKS : 1. The transformer conforms to the guaranteed requirement as per above mentioned test specification for test nos.2,3,4,5 & 6. 2. Criteria limit has not been specified for test no. 1 & 7.</p>									
 PREPARED BY	 CHECKED BY								
 APPROVED BY									
<p>Note : 1. This report relates only to the particular sample received for testing in good condition at E.R.D.A. 2. This report cannot be reproduced in part under any circumstances. 3. Publication of this report requires prior permission in writing from Director , E.R.D.A. 4. Only the tests asked for by the customer have been carried out. 5. In case of any dispute, Vadodara will be the exclusive jurisdiction & shall be construed as where the cause has arisen</p>									
<p>Caution :ERDA is not responsible for the authenticity of photocopied or reproduced test reports. ERDA provides support to customers for verification of the authenticity of test reports issued by ERDA.</p>									

TE 1194520



TRANSFORMING YOUR NEEDS



Certificate No. : T-0071

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
ERDA Road, Makarpura Industrial Estate, Vadodra-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2542377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.erda.org

**TEST REPORT**

SHEET : 1 of 7

NAME & ADDRESS OF CUSTOMER M/s. PRIMA TRANSFORMERS PVT. LTD. PLOT NO.809/2, KOTHARI CROSS ROAD, SANTEJ - 382721, TAL. KALOL, DIST:GANDHINAGAR, GUJARAT	REPORT NO. : HCCT/03/1605 DATE : 22.11.2012	
	CUSTOMER REF.NO.	DATE
	NIL	08.08.2012
	DATE OF SAMPLE RECEIPT	DATE OF TESTING
	09.08.2012	13.08.2012 & 14.08.2012
SAMPLE DESCRIPTION TRANSFORMER (DRY TYPE VPI) MFD. BY : PRIMA TRANSFORMERS PVT. LTD. RATING : 100 kVA VOLTS : 11000/433 V (at no- load) CURRENT : 5.25/133.34 Amps PHASES : 3/3 FREQUENCY : 50 Hz % IMPEDANCE : 5% WINDING : Copper VECTOR GROUP : Dyn11 GTD. LOAD LOSS AT 75°C :1550 W GTD. NO LOAD LOSS :550 W CLASS OF INSULATION : H MAX. AMBIENT TEMPERATURE : 50°C MAX. TEMP. RISE OF WINDING : 115°C	SAMPLE IDENTIFICATION ERDA SAMPLE CODE No: HCCTWO0104488 SERIAL NO. : 112 COOLING : AN YEAR OF MFG. : 2012 ENCL. DRG NO.: 1. Name plate drawing 2. B0502323DS	
TEST DETAILS As per sheet 2 of 7	TEST SPECIFICATION As per sheet 2 of 7	
TEST RESULTS : As per sheets 3 of 7 to 7 of 7.		
TESTS WITNESSED BY : Mr. Balkrishna B. Dhinora (Production and Design Manager, M/s Prima Transformers Pvt. Ltd.)		
REMARKS : 1.The transformer conforms to the guaranteed requirement as per above mentioned test specification for test nos. 2 to 4 & 6 to 8. 2.Criteria limit has not been specified for test no.1 & 5.		
PREPARED BY 	CHECKED BY 	APPROVED BY
Note : 1. This report relates only to the particular sample received for testing in good condition at E.R.D.A. 2. This report cannot be reproduced in part under any circumstances. 3. Publication of this report requires prior permission in writing from Director, E.R.D.A. 4. Only the tests asked for by the customer have been carried out.		

TE 1072869





ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
P. B. 780, ERDA Road, Makarpura Industrial Estate, Vadodra-390 010, India Gram. ELECSEARCH
LPABX : +91 (0265) 2642042, 2642064, 2642877, 2642857, 2535300, 2635253, 2657754, 2657785.
Fax : +91 (0265) 2638382 E-mail : erda@erda.org , dir@erda.org , adir@erda.org



TEST REPORT

SHEET: 1 OF 4

NAME & ADDRESS OF CUSTOMER PRIMA TRANSFORMERS PVT. LTD. PLOT No. 809/2, KOTHARI CHAR RASTA, SANTEJ-382721 TAL. KALOL, DIST. SANTHI NAGAR, GUJARAT.	REPORT NO. : PHV / 03 / 267	
	DATE : 25.05.2007	
SAMPLE DESCRIPTION DRY TYPE CONTROL TRANSFORMER MFD. BY : Prima Transformers Pvt. Ltd RATING : 25kVA VOLTAGE : 690/230 V (at no load) PHASES : 3 FREQUENCY : 50 Hz VECTOR GROUP : Dyn 5 INSULATION CLASS : F	CUSTOMER REF. NO.	DATE
	Nil	31.03.2007
	DATE OF SAMPLE RECEIPT	DATE OF TESTING
	14.05.2007	14.05.2007 & 15.05.2007
TEST DETAILS 1. EFFICIENCY OF TRANSFORMER. 2. REGULATION OF TRANSFORMER. 3. TEMPERATURE RISE TEST (Cl no.17 & customer's req.)	SAMPLE IDENTIFICATION	
	TRANSFORMER SR NO : 33-050307 PART CODE : OXRJ34HOX ERDA ID NO. : PHV-219	
TEST RESULTS : As per sheet 2 to 4	TEST SPECIFICATION	
	AS PER IS : 11171 - 1985, IS: 2026-1997 AND CUSTOMER'S REQUIREMENTS	
REMARKS : The above mentioned test were conducted as per above mentioned specification and results are as per sheet 2 to 4.		
NOTE : Only the tests asked for by the customer have been carried out.		
PREPARED BY	CHECKED BY	APPROVED BY
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Note : 1. This report relates only to the particular sample received for testing in good condition at E.R.D.A. 2. This report cannot be reproduced in part under any circumstances. 3. Publication of this report requires prior permission in writing from Director, E.R.D.A.		

592954



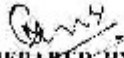
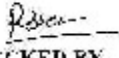
TRANSFORMING YOUR NEEDS



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

[Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India]
P. 3, 750, EHDA Road, Makarpura Industrial Estate, Vadodra 390 010, India. Gram : ELECRESEARCH
EPABX : +91 (0265) 2642942, 2642964, 2642977, 2642557, 2535300, 2635253, 2657784, 2657796.
Fax : +91 (0265) 2638382 E-mail : erda@erda.org , dir@erda.org , tdir@erda.org



TEST REPORT NO. : PHV/03/267	SHEET : 2 OF 4
DATE : 25.05.2007	
TEST RESULTS:	
[1] EFFICIENCY OF TRANSFORMER :	
1) At 0.6 power Factor	: 95.88 %
2) At Unity power Factor	: 96.67 %
[2] REGULATION OF TRANSFORMER :	
1) Percentage Regulation at 0.8 (Lag) power Factor	: 1.800 %
2) Percentage Regulation at Unity power Factor	: 1.768 %
 PREPARED BY	 CHECKED BY

592955



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
P. O. 780, EPDA Road, Makerpura Industrial Estate, Vadodra-390 010, India Gram : ELEGSEARCH
EPABX : -91 (0265) 2542942, 2642964, 2642377, 2642557, 2335300, 2635253, 2357784, 2657785.
Fax : -91 (0265) 2639382 E-mail : erda@erda.org ; dir@erda.org ; adi@erda.org



TEST REPORT NO : PHV/03/267
DATE : 25.05.2007

SHEET : 3 OF 4

TEST RESULTS :

[3] TEMPERATURE RISE TEST (Customer's requirements)
By Simulated load method

[A] Temperature rise test by application of rated voltage:

Rated voltage was applied to the LV winding of the transformer and HV winding was kept open circuited, till steady state temperature was attained. For the purpose of determining the steady state condition of temperature, RTDs/Thermocouples were mounted on the following parts of transformer:

- (1) Center of top yoke on core.
- (2) Innermost low voltage winding conductor at the top of winding on middle phase.

The temperature of various parts were recorded. After achieving the steady state condition, shut down was taken to measure the hot HV, LV winding resistance and temperature rise were calculated.

OBSERVATION :

[Obtained results are recorded below]

a)	Temperature rise of core (Measured by using the Thermocouple as per above mentioned condition no.1)	: 38.77 °C
b)	Innermost high voltage winding conductor at the top of winding on middle phase. (Measured by using the Thermocouple as per above mentioned condition no.2)	: 27.27 °C
c)	Ambient temperature	: 32.93 °C
d)	Winding Temperature Rise of HV winding (Resistance method)	: 26.61 °C
e)	Winding Temperature Rise of LV winding (Resistance method)	: 22.02 °C

PREPARED BY

CHECKED BY

592956



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
P. 3, 760, ERDA Road, Makarpura Industrial Estate, Vadodra-390 010, India. Gram - ELECSEAROH
EPADIX : +91 (0265) 2642947, 2642964, 2642977, 2642557, 2535300, 2635253, 2657784, 2657785.
Fax : +91 (0265) 2638382. E-mail : erda@erda.org , dir@erda.org , adir@erda.org



TEST REPORT NO: PHV/03/267 SHEET : 6 OF 4
DATE : 25.05.2007

TEST RESULTS

[B] Temperature rise test: by short circuit run with rated current :

Applying the voltage to the HV winding of transformer circulated rated current in LV & HV winding and LV winding was kept short circuited. For the purpose of determining the steady state condition of temperature, RTDs/Thermocouples were mounted on the following parts of transformer:

- (1) Center of top yoke on core.
- (2) Innermost low voltage winding conductor at the top of winding on middle phase.

The temperature of various parts were recorded. After achieving the steady state condition, shut down was taken to measure the hot HV, LV winding resistance and temperature rise were calculated.

OBSERVATION:

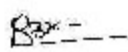
[Obtained results are recorded during the test]

- | | | | |
|----|---|---|----------|
| a) | Temperature rise of core
(Measured by using the Thermocouple as per above mentioned condition no.1) | : | 31.44 °C |
| b) | Innermost High voltage winding conductor at the top of winding on middle phase.
(Measured by using the Thermocouple as per above mentioned condition no.2) | : | 58.14 °C |
| c) | Ambient temperature | : | 30.16 °C |
| d) | Winding Temperature Rise of HV winding
(Resistance method) | : | 73.35°C |
| e) | Winding Temperature Rise of LV winding
(Resistance method) | : | 77.16°C |

Final calculated temperature rise of winding from the obtained results
Of above mentioned procedure [A] & [B].

- | | | | |
|----|---|---|----------|
| a) | Temperature Rise of HV Winding
(Resistance method) | : | 89.45 °C |
| b) | Temperature Rise of LV Winding | : | 89.78 °C |

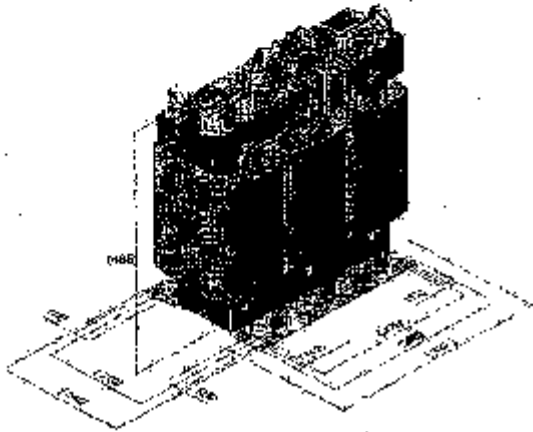

PREPARED BY


CHECKED BY

1592957

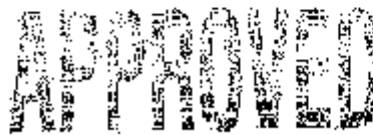
PRIMA TRANSFORMERS PVT LTD

3 PHASE 25 KVA AUTO TRANSFORMER BT1 RITCH AUTO (2:1 STV)



TECHNICAL DATASHEET

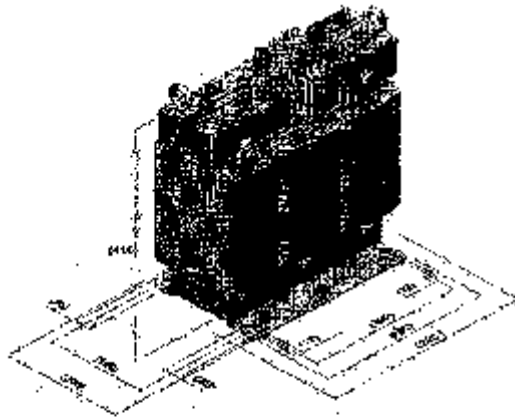
CUST PART CODE	XRGPLY
PTPL PART CODE	0XR034HOX
Rated Supply Voltage (P)	[V AC] 3 X 690
Rated Supply Voltage (S)	[V AC] 3 X 230
Rated Frequency	[Hz] 50/60
Rated output current	[A] 3 X 62.8
Rated output power	[VA] 25000
Phase	3 PH
Vector Group	Dyn5
Insulation Class	F
Temperature Class	F
Protection Index	IP 00
Rated maximum ambient temperature	[°C] 40 (at rated output)
Dimension	320 X 242 X 435 mm
Mounting Dimension	250 X 210 mm
Total Weight	69.9 Kg
Efficiency	> 95%
Voltage Regulation	< 4%
Reference Standard	IS 11171 & EN61558



Signature
2007-10-04

PRIMA TRANSFORMERS PVT LTD

3 PHASE 16 KVA AUTO TRANSFORMER
9:1 PITCH AUTO (2:1 STV)



TECHNICAL DATASHEET

GUST PART CODE	XRGPLTW
PTPL PART CODE	0XR011H0X
Rated Supply Voltage (P)	[V AC] 3 X 690
Rated Supply Voltage (S)	[V AC] 3 X 230
Rated Frequency	[HZ] 50/60
Rated output current	[A] 3 X 41.7
Rated output power	[VA] 16000
Phase	3 PH
Vector Group	Dynb
Insulation Class	F
Temperature Class	F
Protection Index	IP 00
Rated maximum ambient temperature [°C]	40 (at rated output)
Dimension	320 X 200 X 410 mm
Mounting Dimension	250 X 180 mm
Total Weight	69.750 Kg
Efficiency	> 98%
Voltage Regulation	< 4%
Reference Standard	IS 11171 & EN61558



APPROVED

2007-10-01 P. K. S. D.



Gram : BHARATELEC
Fax : 080-26740137,
PHONE : 080- 26998443
Email : sdc@bheledn.co.in

ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड

Bharat Heavy Electricals Limited

(A Government of India Undertaking)

ELECTRONICS DIVISION

P.B. No 2606, MYSORE ROAD, BANGALORE - 560 026. INDIA

An ISO 9001, ISO 140001 & OHSAS 180001 Company

TO
M/s PRIMA TRANSFORMERS PRIVATE LIMITED
PLOT NO.809/2, KOTHARI CROSS-ROAD
SANTEJ - 382721

REF: ES/VDC/405/2011-12

Dear Sir,

SUB: SUPPLIER REGISTRATION

We are pleased to inform you that your company has been registered as a supplier with our unit of BHEL vide Supplier Code: **S386614**

For the supply of: **CONTROL & POWER TRANSFORMERS**

You are requested to quote the above supplier code for all correspondence with us.

Please note the following:

1. You can access the details of purchase enquiries, purchase orders and payment from the web. A brief write up along with login ID & password is enclosed.
2. Payments are made only thro' **Electronic Fund Transfer (EFT)**. Hence, you are requested to fill up the enclosed EFT form and submit to us immediately.
3. Also, please intimate us if any change in address, phone, fax, email ID etc., in future to update our records.

With best wishes,

BANGALORE
DATE :24.09.2011

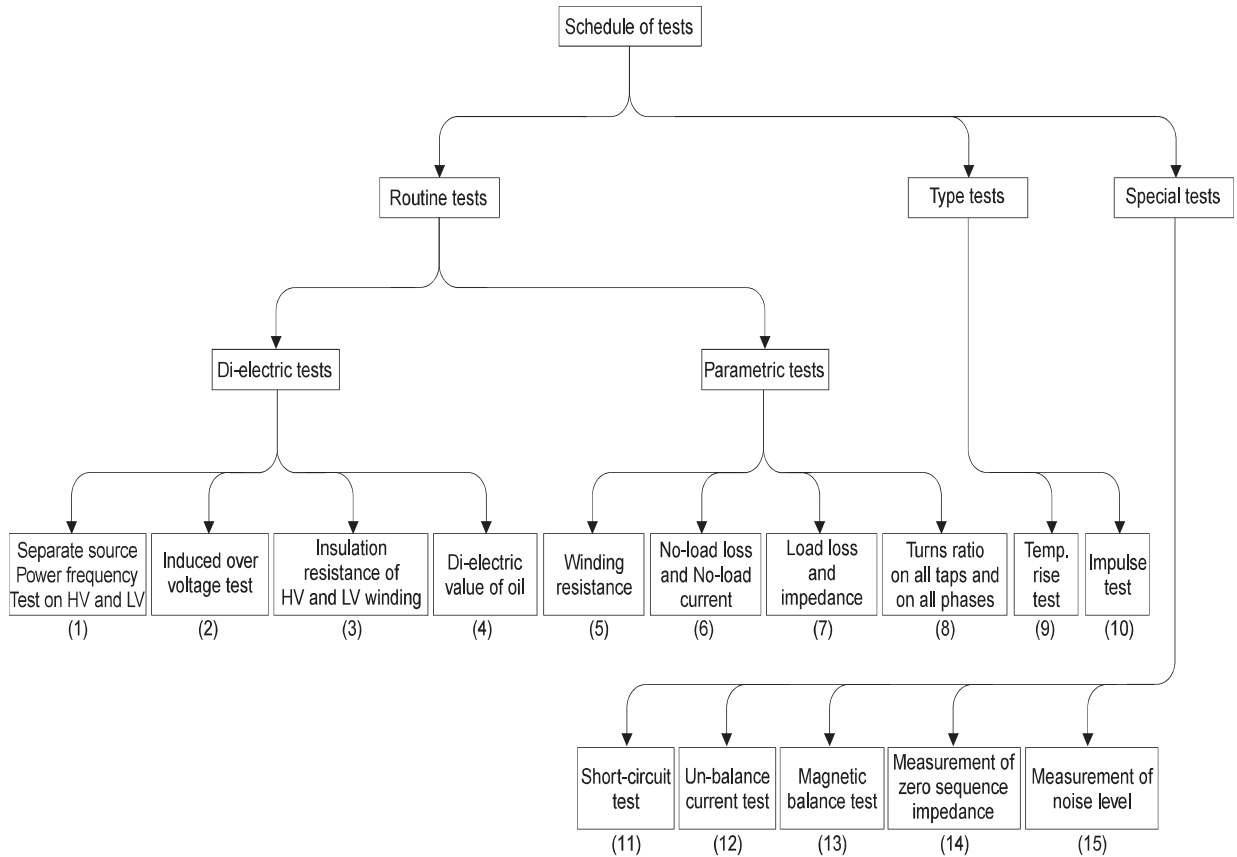
Truly yours,

(DHARMARAJU BK)
Sr. Manager (Supplier Development Cell)

पंजीकृत कार्यालय : ' भेल हाउस ' , सिरी फोर्ट , नई दिल्ली - 110 049
Regd. Office : BHEL House, Siri Fort, New Delhi - 110 049
Website: www.bhel.com

CHAPTER-6

TEST CARRIED OUT BY PRIMA



Schematic diagram indicating the schedule of tests

CHAPTER-7

CUSTOMER GUIDELINE TO ORDER

A transformer is a static piece of electrical equipment which transfers power from one voltage system to another by means of electromagnetic induction. The reason for using a transformer is to match the voltage of the load to line voltage supplied by the utility.

MINIMUM SPECIFICATION REQUIRED TO ORDER		
Transformer	Reactor / Inductor	CT
No of Phase (1,2,3 PH)	No of Phase (1,2,3 PH)	No of Phase (1,2,3 PH)
VA Rating / Load Current	KW / HP rating	VA Burden
Frequency	Frequency	Frequency
Primary voltage	System Voltage AC/DC	System Voltage
Secondary voltage	Inductance / % Voltage Drop	Current Ration in AMP
Vector Group	AMP	Accuracy class
Type	Type	Type
Application	Application	Application (Metering/ Protection)
IP	IP	IP

CHAPTER-8

INFORMATION DESK FOR CUSTOMER.

WHAT IS AN ISOLATION TRANSFORMER ?

An isolation transformer, also referred to as an insulating transformer, is one where the primary and secondary windings are separate, as opposed to an autotransformer where the primary and secondary share a common winding

The Isolation transformer will offer you several advantages listed below.

- Ensures consistent control voltage, as it is derived from 2 phases, rather than a phase & neutral
- Since primary is isolated from secondary; any disturbance on main line is not reflected on control voltage
- Disturbances like welding strikes, lightning will not damage panel.
- Voltage control is possible by changing tapings, where grid voltage is low or high.
- Flexibility to select 110V/220V for export market.
- Ultra isolation is available for very sensitive electronics.

An **isolation transformer** is a transformer, often with symmetrical windings, which is used to decouple two circuits. An isolation transformer allows an AC signal or power to be taken from one device and fed into another without electrically connecting the two circuits. Isolation transformers block transmission of DC signals from one circuit to the other, but allow AC signals to pass. They also block interference caused by ground loops. Isolation transformers with electrostatic shields are used for power supplies for sensitive equipment such as computers or laboratory instruments.

In electronics testing, troubleshooting and servicing, an isolation transformer is a 1:1 power transformer which is used as a safety precaution. Grounded objects near the device under test (desk, lamp, concrete floor, oscilloscope ground lead, etc.) may be at a hazardous potential difference with respect to that device. By using an isolation transformer, the bonding is eliminated, and the shock hazard is entirely contained within the device.

Isolation transformers are also used for the power supply of devices not on ground potential. Isolation transformers are commonly designed with careful attention to capacitive coupling between the two windings. This is necessary because excessive capacitance could also couple AC current from the primary to the secondary. A grounded shield is

Commonly interposed between the primary and the secondary. This greatly reduces the coupling of common-mode noise present on supply conductors.

Differential noise can magnetically couple from the primary to the secondary of an isolation transformer. This requires other measures, such as a filter, to block differential noise from the secondary of an isolation transformer.

Galvanic isolation is the principle of isolating functional sections of electric systems so that charge-carrying particles cannot move from one section to another, i.e. there is no electric current flowing directly from one section to the next. Energy and/or information can still be exchanged between the sections by other means, however, such as by capacitance, induction, electromagnetic waves, optical, acoustic, or mechanical means.

Galvanic isolation is used in situations where two or more electric circuits must communicate, but their grounds may be at different potentials. It is an effective method of breaking ground loops by preventing unwanted current from traveling between two units sharing a ground conductor. Galvanic isolation is also used for safety considerations, preventing accidental current from reaching the ground (the building floor) through a person's body.

WHY ISOLATION TRANSFORMER????

Most of the panel manufacturers are using phase & neutral as control voltage. This can have many problems like,

- In industry, neutral is not provided by electricity boards. The neutral is generated by local earth pits, which are not maintained.
- Due to this neutral does not guarantee perfect zero voltage with reference to earth.
- As a result the control voltage keeps on changing depending on load connected. The voltage many a time reduces below contactor holding voltage, resulting in mal functioning of panel.
- At many locations neutral and earth are not separate and are freely interchanged. Let us say some one connects welding transformer to the neutral/earth. Now the high striking voltage goes to control circuit, damaging PLC, control cards and costly electronics.
- Even a lightning passing through common earth/neutral will damage entire electronics.

To avoid frequent failure of electrical and electronics, we strongly recommend to us Prima's specially designed Isolation transformers.

The Isolation transformer will offer you several advantages listed below.

- Ensures consistent control voltage ,as it is derived from 2 phases, rather than a phase & neutral
- Since primary is isolated from secondary ,any disturbance on main line is not reflected on control voltage
- Disturbances like welding strikes, lightning will not damage panel.
- Voltage control is possible by changing tapings, where grid voltage is low or high.
- Flexibility to select 110V/220V for export market.
- Ultra isolation is available for very sensitive electronics.

CASE STUDY:

Prima Automation Pvt.Ltd. our group company is a leading Control Panel manufacturers and renowned name in Control Panels. More than 5000 control panels supplied by them are working



TRANSFORMING YOUR NEEDS

with isolation transformers. Their panel failure rate is just negligible. They use isolation transformer for all the panels they make.

WHY VPI DRY TYPE TRANSFORMER??

PRIMA (VPI) dry type transformers are ideal for most industrial and commercial applications. These transformers provide excellent mechanical and short-circuit strength, no danger of fire or explosion, no liquids to leak, less weight than comparable cast coil units, low total ownership costs and low initial costs

ADVANTAGES OF VPI OVER CAST RESIN TRNASFOMER (CRT)

SR no.	VPI Dry type Transformer	Resin Encapsulated Transformer
1	Zeroing corona generation is possible ,so to enable the transformer, not to fail prematurely	Zeroing corona generation is not possible, causing failure in coils during operation.
2	Economic to repair, since part of coil & copper can be easily replaced /rived.	Impossible to repair the transformer, since recovery of copper & lamination not possible
3	The VPI /Epoxy shielded design has benefits of unequal environmental protection, high impulse level, low sound & superior short circuit strength.	Cracking of epoxy mould due to thermal cycling.
4	Less weight ,smaller dimension for easier handling & installation, fire resistance & no bursting of Tank	Heavier in weight, bigger dimensions hence, difficult in handling & installation.
5	VPI / Epoxy shield transformer are maintenance free	Less resistance to cracking, hence regular maintenance required.

CHAPTER-9

WHY PRIMA TRANSFORMERS PVT. LTD.???

There are many benefits that Prima Transformers Pvt. Ltd. boasts of. Here is an account of some of them:

1. **EXPERIENCE:** Being in existence for more than 5 years now and having the large number of clients that it has, Prima Transformers comes across as your time tested partner for the manufacturing of control transformers. Not only this but even its founders, i.e. A.B. Products and Prima Automation, have been in the business of manufacturing and marketing for more than two decades. Therefore, there is a large amount of experience that comes along with the company.
2. **SKILLED MANPOWER:** We hire experts from various fields to enhance the quality of work which is being delivered to our clients. The training of these recruits are also maintained at the highest level. All of this culminates into the sustenance of high quality product offering.
3. **ECONOMICAL:** The Company's products are economical when compared to the competitors' which are available in the market.
4. **CUSTOMER SAFETY:** Even the customers gain many advantages by working with Prima Transformers. Firstly, they can relieve themselves of the risk of sub standard quality and low rating products. The company comes across as a high quality product in all counts. The use of modern technology leads to the manufacturing of contemporary product models. Lastly, the manufacturing processes of the company are such that standard output of confirmed specifications is assured.
5. **ONE OF ITS KINDS MANUFACTURING FACILITY:** Prima Transformers has more 5500 square meters plant area, which is the largest in Gujarat in its kind of control transformers.
6. **DEDICATION TOWARDS QUALITY:** The Company leaves no stone unturned to make sure that the promised quality is being delivered to the customers.

CONTACTS

OFFICE & WORKS:

Prima Transformers Pvt Ltd

Plot No. 809/2, Kothari Cross Road,

Santej-382721

Tal: Kalol, Dist: Gandhinagar,

Gujarat, INDIA

Phone.

Tele: 02764-286115

Mobile No: **09824040231** , **09909882261** , **09662223326**

Fax.

Fax No : 02764-286645

E-Mail:

mkt@primatransformer.com

sales@primatransformer.com

info@primatransformer.com

Web:

www.primatransformer.com

Mr. Vinod Patel (Director)

vinod@primatransformer.com

09824040231

Mr. Kartik Patel (Sales & Marketing)

kartik@primatransformer.com

09909882261

Mr. Balkrishna Dhinora (Design & Production)

balkrishna@primatransformer.com

09662223326