



# 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

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RP-2425-031357

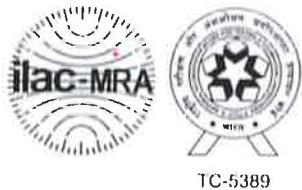
## TEST REPORT

ULR NO.: TC538925000001317F

SHEET NO.: 1 OF 4

<b>NAME &amp; ADDRESS OF CUSTOMER</b> <b>M/s. CG Power and Industrial Solutions Limited</b> S6, Instrument Transformer and Bushings D2 & D1/2, MIDC, Waluj, Aurangabad - 431 136, Maharashtra, India.	<b>REPORT NO.:</b> RP-2425-031357
	<b>DATE OF ISSUE:</b> 17.01.2025
	<b>CUSTOMER REF. NO.:</b> LETTER DATED : 06.01.2025
	<b>DATE OF SAMPLE RECEIPT</b> <b>DATE OF TESTING</b>
	07.01.2025      08.01.2025
<b>SAMPLE DESCRIPTION</b> <b>(As provided by customer)</b> <b>132 kV Inductive Voltage Transformer</b> Rated Voltage : 132 kV H.S.V. : 145 kV Ratio : $132000/\sqrt{3}/110/\sqrt{3}-110/\sqrt{3}-110/\sqrt{3}$ V Burden : 200 / 50 / 50 VA Acc. Class : 3P / 3P / 0.5 V.F. : 1.2 Count / 1.5 for 30 sec. Insulation Level : 275 kVrms / 650 kVp Frequency : 50 Hz Insulation Class : A	<b>SAMPLE IDENTIFICATION</b> Sr. No. : 234656 Type : VEOT:145/650/50 Year of Mfg. : 2024 Make : M/s. CG Power and Industrial Solutions Limited ERDA Sample Code No.: ERDA-00613165
<b>TEST DETAIL</b> Transmitted overvoltage test	<b>TEST SPECIFICATION</b> IEC : 61869-1 (2023), IEC : 61869-3 (2011)
<b>ENCLOSURE:</b> Drg. No.: 1) 413695829 IVT4900 GA/R0 2) 413695829 IVT4900 RS R0 <b>WITNESSED BY:</b> Mr. Sarang Porandare - M/s. CG Power and Industrial Solutions Limited	
<b>REMARKS:</b> As per <b>SHEET NO.:</b> 2 OF 4	
 <b>CHECKED BY</b>	  <b>T. S. Vishwakarma</b> <b>APPROVED BY</b>
<b>Note:</b> <ol style="list-style-type: none"> <li>This report relates only to the particular sample received for testing in good condition at ERDA, Savli.</li> <li>This report cannot be reproduced in part under any circumstances.</li> <li>Publication of this report requires prior permission in writing from Director, ERDA.</li> <li>This report shall not be used for any purpose such as PR brochures, propaganda, advertisement and legal proceedings, unless for the granted purpose.</li> <li>Only the tests asked for by the customer have been carried out.</li> <li>Particulars of manufacturer/supplier, given in this report are based on information supplied by the customer, along with the test request/sample. ERDA does not assume any responsibility for the correctness of the information for above mentioned Sample Under Test (SUT). ERDA will not be responsible for any changes in SUT made after the test. This test report is given as per instrument status while testing.</li> <li>In case of any dispute, Vadodara will be the exclusive jurisdiction &amp; shall be construed as where the cause has arisen.</li> </ol> <b>Caution:</b> 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 within 10 years of date of issue of report

TC 3744138



TC-5389

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ULR NO.: TC538925000001317F

Discipline: Electrical

Group: High Voltage Test Facility

SHEET NO.: 2 OF 4

REPORT NO.: RP-2425-031357

DATE OF ISSUE: 17.01.2025

### Transmitted overvoltage test

(As per Cl. No. 7.4.4 of IEC : 61869-3 (2011) and  
Cl. No. 7.4.2 of IEC : 61869-1 (2023))

#### Atmospheric condition

Dry bulb temperature : 28.0°C  
Wet bulb temperature : 24.0°C  
Atmospheric pressure : 758.0 mm of Hg

#### Test parameters:

$U_1$  : A voltage impulse applied between one of the primary terminals and earth.

$U_2$  : Transmitted voltage (Measured at the open secondary terminals)

$U_{tov}$  : Overvoltage transmitted to the secondary winding

$U_{pref}$  : Peak value of reference voltage =  $1.6 \times \frac{\sqrt{2}}{\sqrt{3}} \times U_m = 189.42$  kVp

$U_m$  : H.S.V. = 145 kV

#### Observation table:

Winding No.	$U_1$ in kVp (Applied)	Wave shape of $U_1$ in $\mu$ s	Winding No.	$U_2$ in Vp (Measured)	$U_{tov} = U_{pref} \times U_2/U_1$ in kVp
Primary Terminal Winding (A - N)	52.501	1.015/72.965	Winding 1 (1a - 1n)	125.980	0.454
	51.925	0.992/74.339	Winding 2 (2a - 2n)	120.121	0.438
	51.935	0.985/74.312	Winding 3 (3a - 3n)	103.519	0.378

**Note:** The transmitted overvoltage peak value limits ( $U_{tov}$ ) : 1.6 kVp

**REMARKS:** "Conforms"

*Patel*

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TC 3744142



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REPORT NO.: RP-2425-031357

DATE OF ISSUE: 17.01.2025

SHEET NO.: 3 OF 4

## PHOTOGRAPH OF TEST SAMPLE



  
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TC 3744140





TC-5389

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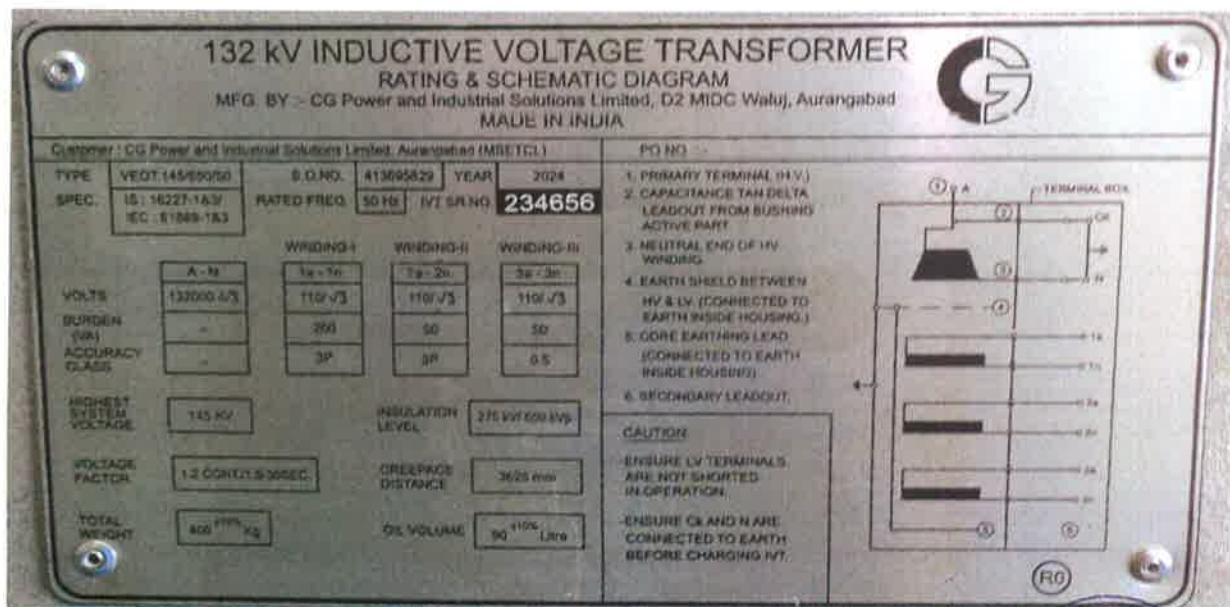
ULR NO.: TC538925000001317F

**REPORT NO.:** RP-2425-031357

**DATE OF ISSUE:** 17.01.2025

**SHEET NO.: 4 OF 4**

**PHOTOGRAPH OF NAME PLATE**



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\*\*\*\*\* END OF TEST REPORT \*\*\*\*\*

TC 3744141

ITEM NO.	QTY	DESCRIPTION	MATERIAL
1	1	PRIMARY TERMINAL - Ø30x80L (Min.)	COPPER
2	1	TANK	ALUMINUM CAST
3	1	PORCELAIN INSULATOR	PORCELAIN BROWN COLOUR
4	1	RATING & SCHEMATIC DIAGRAM	Aluminum
5	1	SECONDARY TERMINAL BOX	Aluminum Cast

**TECHNICAL SPECIFICATIONS**

**132 KV INDUCTIVE VOLTAGE TRANSFORMER**

SPECIFICATION	UNIT	RATING
HIGHEST SYSTEM VOLTAGE (Ph-Ph)	Kilo Volts	145
HIGHEST SYSTEM VOLTAGE (Ph-E)	Kilo Volts	145/√3
1 MIN. AC WITHSTAND VOLTAGE	Kilo Volts	275
LIGHTNING WITHSTAND VOLTAGE < 50% Peak	Kilo Volts	550
TOTAL GROUNDING DISTANCE(MINIMUM)	Meter	3625
TOTAL WEIGHT (± 10%)	Kilogram	400
OIL VOLUME (± 10%)	Litre	90
APPLICABLE STANDARDS		IEC:61869 - 1&3
VOLTAGE FACTOR		± 1.2 CONTINUOUS/ 1.5 - 30 SEC
INSULATION CLASS		2

**MOUNTING DETAILS**

**TOP VIEW**

**ERDA, MAKARPUKA**

**Test Report No. RP-2425-031357**

**Date 17.01.2025**

**Product 132KV Inductive Voltage Transformer**

**Verified by DRG / 16-002**

**Verification of this drawing by ERDA is limited to relevant dimensional checks only. Verified dimensions are marked with \*.**

**FRONT VIEW**

**SECTIONAL SIDE VIEW**

**NOTE : PLEASE REFER INSTRUCTION MANUAL FOR HANDLING & TRANSPORTATION OF WT.**

**Dimensions shown are tentative and may change during detailed design/Engineering**

NO	REVISION	SIGN DATE	SIGN DATE	NAME	NAME	DRN	SDS	SDS	SDS	SDS	SDS
R6				R2		DRN	SDS	SDS	SDS	SDS	SDS
R5				R3		CHD	APFD	APFD	APFD	APFD	APFD
NO	REVISION	SIGN DATE	SIGN DATE	REVISION	SIGN DATE						

**IF IN DOUBT ASK**

**ERDA and Development Association**  
Sri N. 15/01  
Sri N. 15/01

**DRG / 16-002**

**1) PRIMARY WINDING NO OF TURNS 37\*20**  
2) CROSS SECTION AREA OF PRIMARY WINDING :  
38 SWG (0.01824 Sq.mtr)

**3) SECONDARY WINDING :**

NO.OF WINDING	NUMBER OF TURNS	SWG/Sq.mtr
WINDING - I	31	(14x2)/6.48
WINDING - II	31	(14x2)/6.48
WINDING - III	31	(14x2)/12.97

**4) CORE MATERIAL : CRGO 4**

# 132 kV INDUCTIVE VOLTAGE TRANSFORMER

CG Power and Industrial Solutions Limited, Aurangabad, MSE ICL  
NPCI : 413695829  
IEC : 31869 183  
MADE IN INDIA

Customer CG Power and Industrial Solutions Limited, Aurangabad, MSE ICL

TYPE	VEOT 145/650/50	SO NO	413695829	YEAR	2024
SPEC	IS 16227-183	DATE: F.R.D	50 Hz	IVT SR NO	
IEC	31869 183				

VOLTS BURDEN NO. ACCURACY CLASS

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