

Drawing approval subject to valid vendor registration



NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.

ANNEXURE - II (SURGE ARRESTERS)

GUARANTEED TECHNICAL PARTICULARS FOR 30KV 10KA TYPE-SL METAL OXIDE GAPLESS PORCELAIN LIGHTNING ARRESTER

1. Name of Manufacturer : LAMCO INDUSTRIES PRIVATE LIMITED.
H.O & WORKS: SANATHNAGAR-IE, HYD
WORKS: AUTOMOTIVE PARK, TSIIC,
MUPPIREDDYPALLY, T.S, INDIA.
2. Arrester class & type : Station Class Metal Oxide
Gapless Lightning Arrester "MORESTER"
Type-SL, MODEL-'STN-DT'
3. Applicable standard : IEC 99-4 of 2014
4. Rated arrester voltage KV : 30
5. Max. con. operating voltage MCOV KV : 25.5
6. Nominal discharge current with
8/20 micro seconds wave KA : 10
7. Long duration discharge Class : 2 (STATION LOW)
8. Energy dissipation capability
(cumulative of 3 sequential shorts) "KJ/kV of Ur" : 4
9. Max. switching current impulse
residual voltage at
i) 1000 A KVpeak : 71
10. Steep Current Impulse at Nominal
Discharge Current KVPeak : 101
11. Max. residual voltage with 8/20 mic. sec.wave
i) 5 KA KVpeak : 85
ii) 10 KA KVpeak : 90
iii) 20 KA KVpeak : 100
12. Safe fault current Karms : 40 @ 0.2Sec
13. Lightning impulse withstand voltage of
arrester housing with 1.2/50 us wave KVpeak : 170

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Continued on page...2

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- | | | |
|-----|---|---|
| 14. | One minute power frequency withstand voltage of housing dry-wet | KVrms : 70 |
| 15. | High current short duration impulse withstand level with 4/10 us wave | KApeak : 100 |
| 16. | Repetitive Charge Transfer Rating (Qrs) in coulomb | : $\geq 1.0C$ |
| 17. | Pressure relief class | Class : A (40 KA) |
| 18. | Over-voltage withstand capability (with prior duty) | |
| | a) 10 seconds | KVpeak : 44 |
| | b) 1 second | KVpeak : 46 |
| | c) 0.1 second | KVpeak : 48 |
| 19. | a) Reference voltage | KV : Greater than the rated Arrester voltage at reference current |
| | b) Reference current | mA : 2 |
| 20. | Number of units per phase and Rating of each unit | : 1
KV : 30 |
| 21. | Minimum total creepage distance | mm : 1116 |
| 22. | Leakage current | mA : Less than 0.8 |
| 23. | Total weight of arrester | Kgs : 11 $\pm 10\%$ |
| 24. | Overall Height of SA | mm : 540 ± 20 |
| 25. | Maximum distance recommended from equipment to be protected by SA | mtr : 15 |
| 26. | Min.distance between phase and grounded object | mm : 400 |
| 27. | Min. distance between arrester phase legs | mm : 500 |
| 28. | Partial Discharge Level @1.05 cov | : less than 10pC |
| 29. | Cantilever Strength | : 150Kg (Deflection less than 20mm) |

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2) Since the supply of terminal connectors is not in the scope of manufacturer as mentioned in the drawings, the EPC contractors shall be instructed to supply the same in line with CT/PT/CVT/Isolators requirement and compatibility.

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30. Sesmic Acceleration : 0.3g horizontal & vertical
31. Rated voltage of ZnO disc kV : 4.5
- i) No. of ZnO discs in a unit : 7 (for 30kV)
- ii) No. of units/arrester : 1 (30kV)
- iii) Height/Thickness of ZnO disc mm : 32 ±2
- iv) Diameter of ZnO disc mm : 48 ±2

FOR LAMCO INDUSTRIES PRIVATE LIMITED.



(K. ARUN)

SENIOR MANAGER (D&D)

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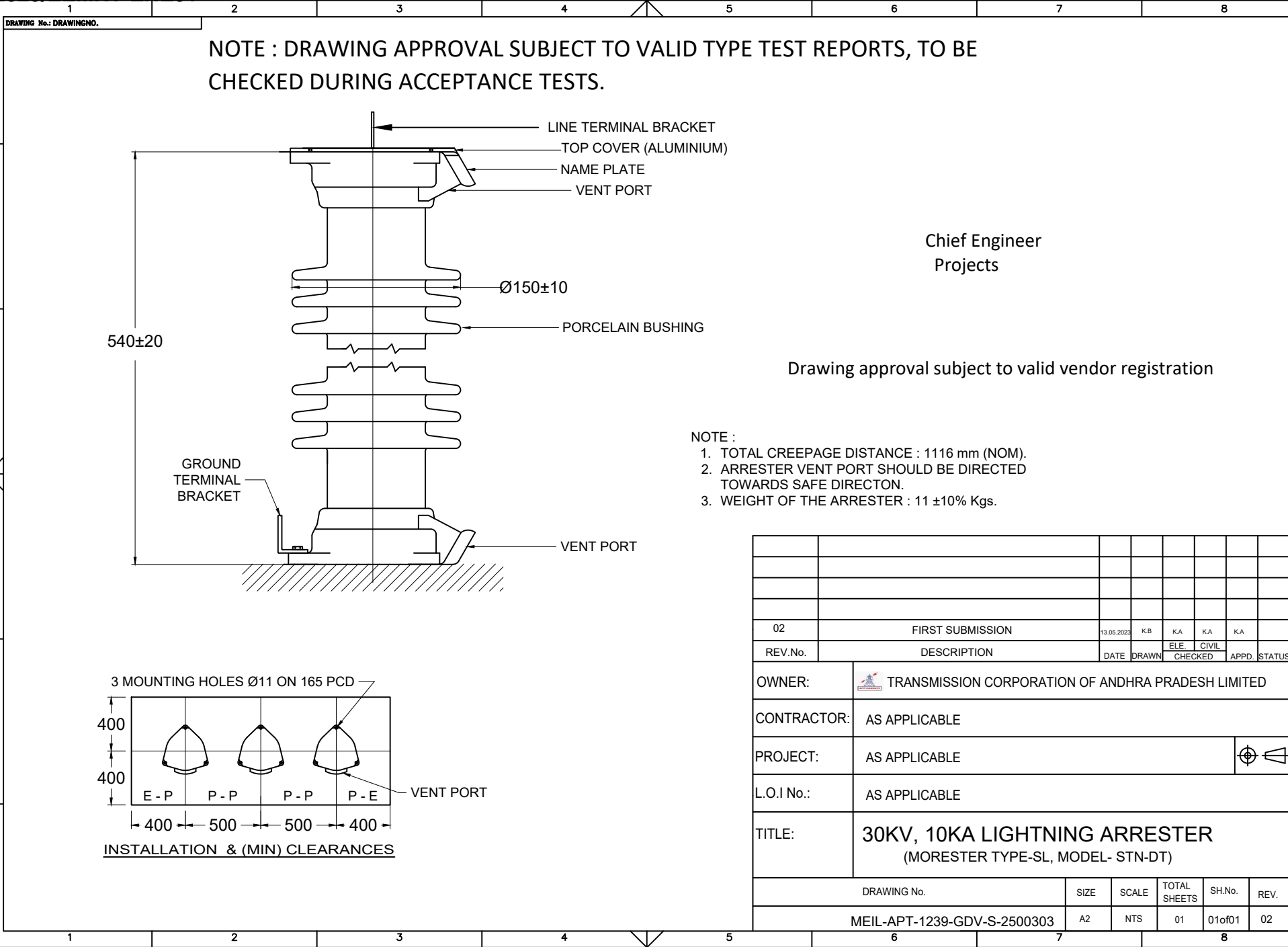
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FOR EPC CONTRACTS ONLY

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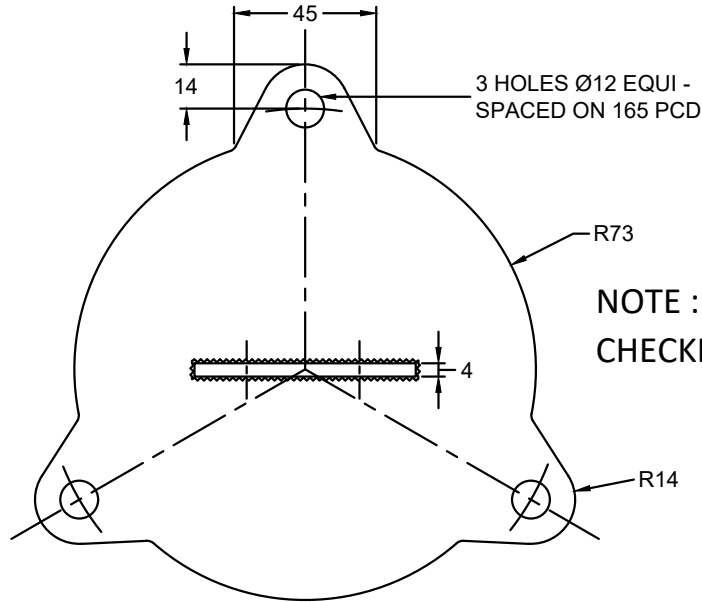
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- NOTE :
1. TOTAL CREEPAGE DISTANCE : 1116 mm (NOM).
 2. ARRESTER VENT PORT SHOULD BE DIRECTED TOWARDS SAFE DIRECTON.
 3. WEIGHT OF THE ARRESTER : 11 ±10% Kgs.

02	FIRST SUBMISSION	13.05.2023	K.B	K.A	K.A	K.A
REV.No.	DESCRIPTION	DATE	DRAWN	ELE. CHECKED	CIVIL	APPD. STATUS
OWNER:		TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED				
CONTRACTOR:		AS APPLICABLE				
PROJECT:		AS APPLICABLE				
L.O.I No.:		AS APPLICABLE				
TITLE:		30KV, 10KA LIGHTNING ARRESTER (MORESTER TYPE-SL, MODEL- STN-DT)				
DRAWING No.		SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.
MEIL-APT-1239-GDV-S-2500303		A2	NTS	01	01of01	02

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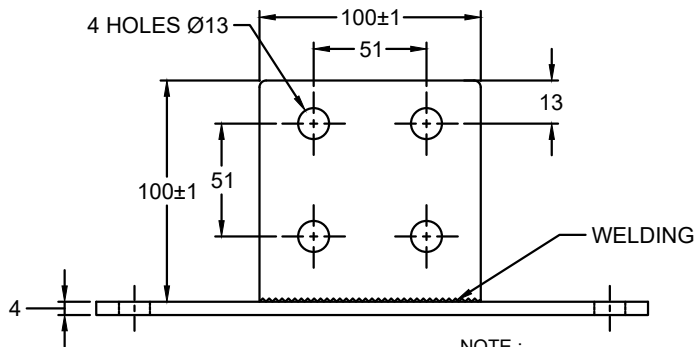
DRAWING No.: DRAWINGNO.



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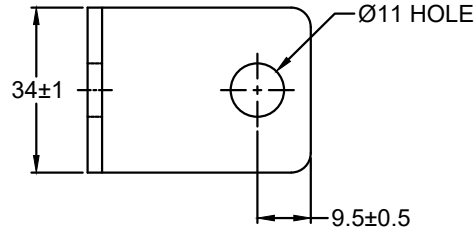


- NOTE :
1. MATERIAL : 4mm THICK M.S SHEET
 2. FINISH : HOT DIP GALVANISED
 3. WELD & GRIND FOR SMOOTH FINISH.
 4. WEIGHT : 1 Kg's ±10%

01	FIRST SUBMISSION	03.05.2023	K.B	K.A	K.A	K.A
REV.No.	DESCRIPTION	DATE	DRAWN	CHECKED	APPD.	STATUS
OWNER:		TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED				
CONTRACTOR:		AS APPLICABLE				
PROJECT:		AS APPLICABLE				
L.O.I No.:		AS APPLICABLE				
TITLE:		LINE TERMINAL BRACKET - STN-DT				
DRAWING No.		SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.
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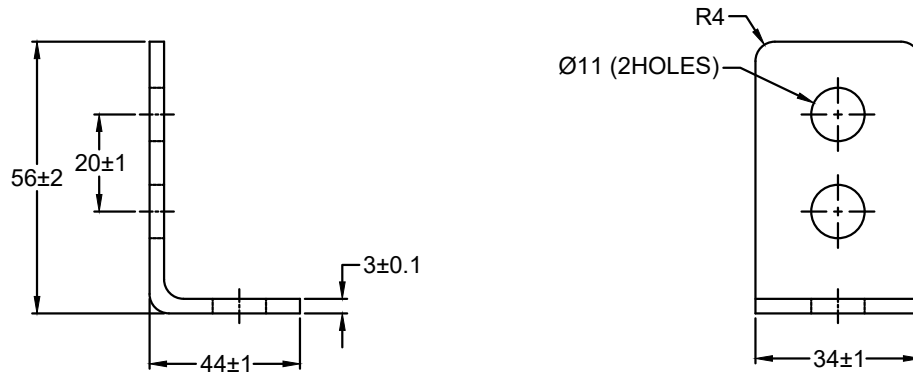
DRAWING No.: DRAWINGNO.

NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.



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NOTE :

1. MATERIAL : M.S.SHEET.
2. FINISH : HOT DIP GALVANISED.
3. WEIGHT : 60 gms.±10%

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REV.No.	DESCRIPTION	DATE	DRAWN	CHECKED	APPD.	STATUS

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CONTRACTOR: AS APPLICABLE

PROJECT: AS APPLICABLE

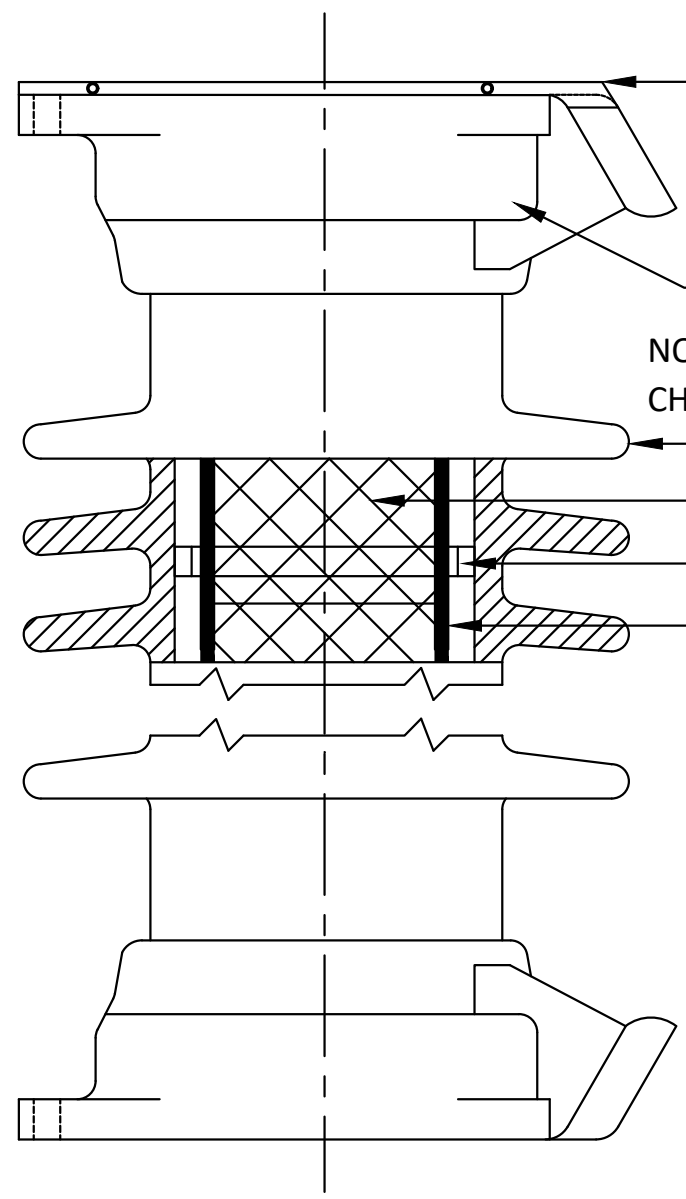
L.O.I No.: AS APPLICABLE

TITLE: GROUND TERMINAL BRACKET

DRAWING No.	SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.
MEIL-APT-1239-GDV-S-6220151B	A2	NTS	01	01 of 01	01

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TOP COVER (ALUMINIUM)

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END CASTING

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PORCELAIN BUSHING

ZnO NLR BLOCK

STACK SUPPORT

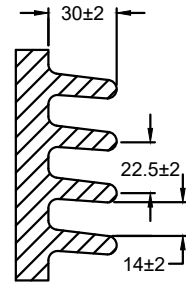
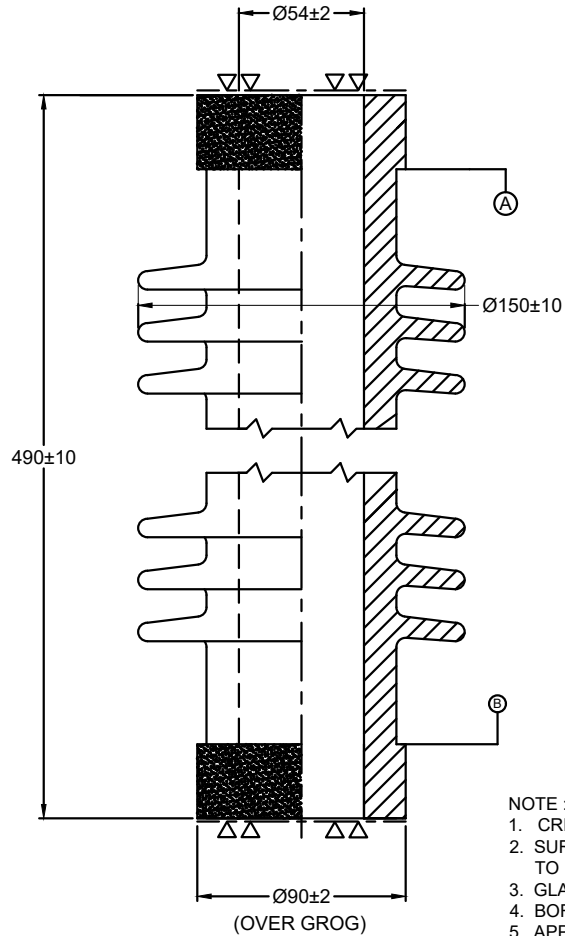
INSULATING TAPE

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REV.No.	DESCRIPTION	DATE	DRAWN	ELE. CHECKED	CIVIL				
OWNER:	 TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED								
CONTRACTOR:	AS APPLICABLE								
PROJECT:	AS APPLICABLE								
L.O.I No.:	AS APPLICABLE								
TITLE:	SECTIONAL VIEW OF MORESTER - STN DT								
DRAWING No.		SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.			
MEIL-APT-1239-GDV-S-4420008		A2	NTS	01	01of01	01			

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SHED DETAILS

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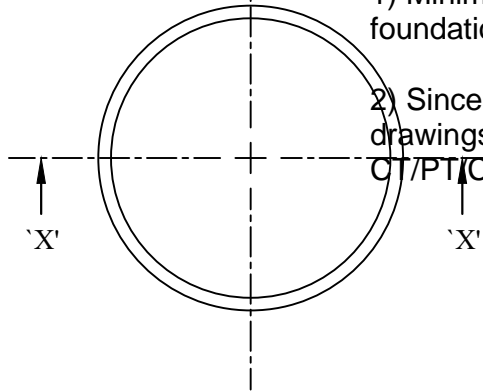
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- NOTE :
1. CREEPAGE DISTANCE FROM A TO B 1116mm (MIN).
 2. SURFACES MARKED 'Δ' UNGLAZED, PARALLEL TO EACH OTHER AND PERPENDICULAR TO AXIS.
 3. GLAZE : DARK BROWN.
 4. BORE SHOULD BE STRIGHT AND UNIFORM DIA.
 5. APPLICABLE STANDARD : IS : 5621 - 1980.
 6. WEIGHT : 7.4±10 % Kgs.

01	FIRST SUBMISSION	03.05.2023	K.B	K.A	K.A	K.A	
REV.No.	DESCRIPTION	DATE	DRAWN	ELE. CHECKED	CIVIL	APPD.	STATUS
OWNER:		TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED					
CONTRACTOR:		AS APPLICABLE					
PROJECT:		AS APPLICABLE					
L.O.I No.:		AS APPLICABLE					
TITLE:		PORCELAIN BUSHING 36KV (STN - DT)					
DRAWING No.		SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.	
MEIL-APT-1239-GDV-S-6520001		A2	NTS	01	01of01	01	

DRAWING No.: DRAWINGNO.

NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.

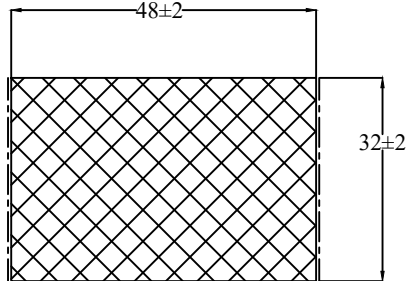


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SECTION AT 'XX'

TECHNICAL PARAMETERS :

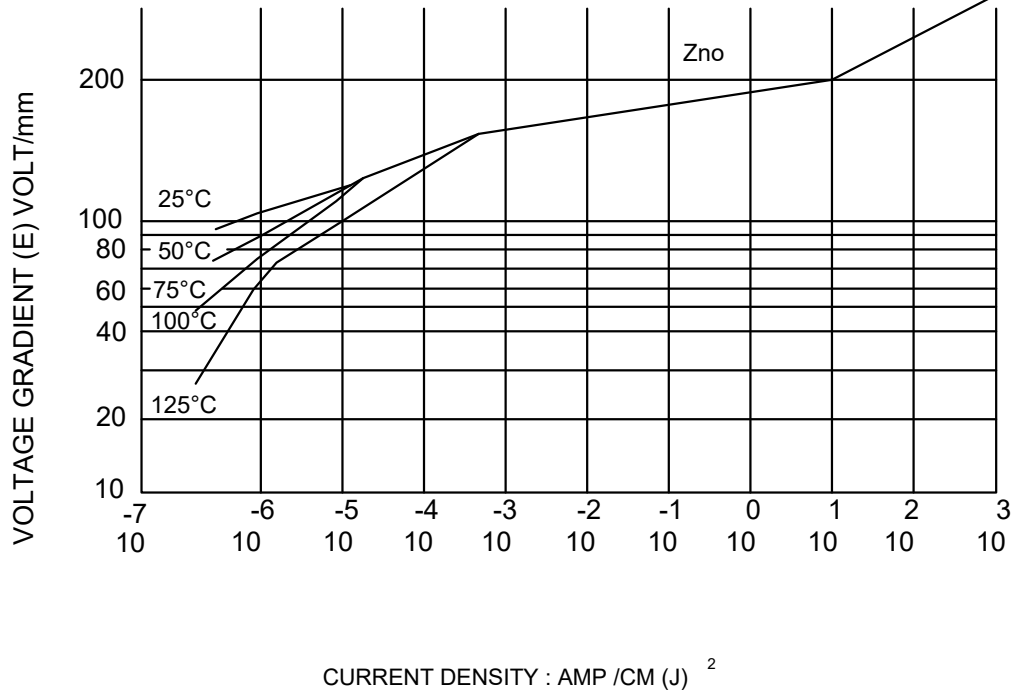
- 1. RATED VOLTAGE (Ur) : 4.5kV (rms)
- 2. MCOV (Uc) : 3.82 kV (rms)
- 3. NOMINADISCHARGE CURRENT (In) : 10KA (PEAK)
- 4. TYPE : STATION LOW DUTY
- 5. REFERENCE STANDARD : IEC 60099-4 ,Ed.3.0,2014-06

REV.No.	DESCRIPTION	DATE	DRAWN	ELE. CHECKED	CIVIL	APPD.	STATUS
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OWNER:		TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED					
CONTRACTOR:		AS APPLICABLE					
PROJECT:		AS APPLICABLE					
L.O.I No.:		AS APPLICABLE					
TITLE:		4.5 KV,10KA STATION LOW(SL)ZINC OXIDE BLOCK					
DRAWING No.			SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.
MEIL-APT-1239-GDV-S-6220082-T			A2	NTS	01	01of01	00

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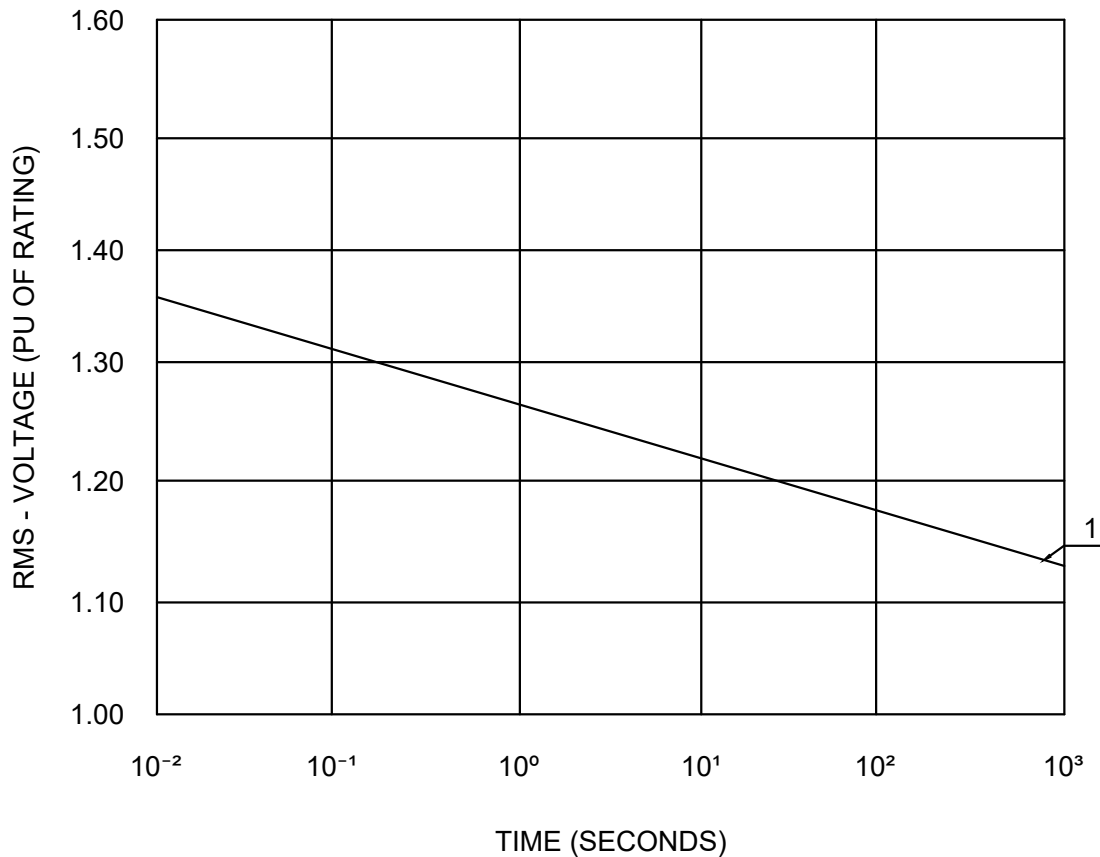
**CHIEF ENGINEER /PROJECTS
APTRANSCO/VIS/VIJAYAWADA**

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01	FIRST SUBMISSION	03.05.2023	K.B	K.A	K.A	K.A
REV.No.	DESCRIPTION	DATE	DRAWN	ELE. CHECKED	CIVIL	APPD. STATUS
OWNER:		 TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED				
CONTRACTOR:		AS APPLICABLE				
PROJECT:		AS APPLICABLE				
L.O.I No.:		AS APPLICABLE				
TITLE:		CHARACTERISTIC CURVES OF ZnO ELEMENTS				
DRAWING No.		SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.
MEIL-APT-1239-GDV-S-8221010		A2	NTS	01	01 of 01	01

DRAWING No.: DRAWINGNO.

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1) TOV CAPABILITY WITHOUT ENERGY ABSORPTION

**CHIEF ENGINEER /PROJECTS
APTRANSCO/VISVIJAYAWADA**

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REV.No.	DESCRIPTION	DATE	DRAWN	CHECKED	ELE.	CIVIL	APPD.	STATUS

OWNER: TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED

CONTRACTOR: AS APPLICABLE

PROJECT: AS APPLICABLE

L.O.I No.: AS APPLICABLE

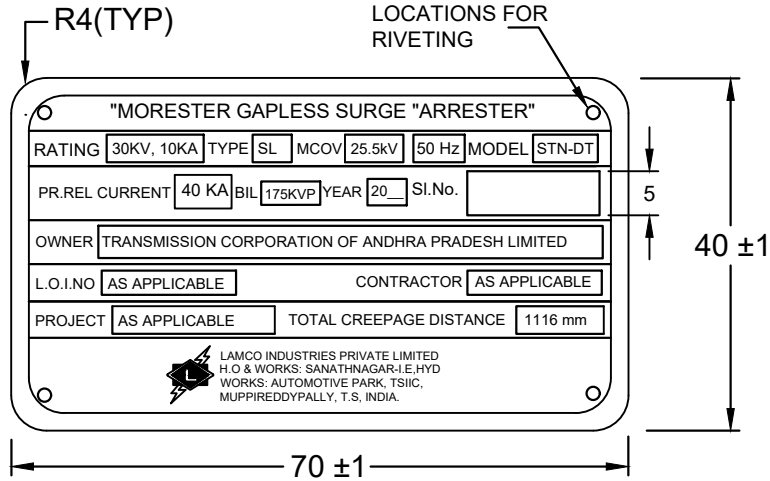
TITLE: **POWER FREQUENCY VOLTAGE Vs
TIME CHARACTERISTICS (10 KA)**

DRAWING No.	SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.
MEIL-APT-1239-GDV-S-8221019	A2	NTS	01	01 of 01	01

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- NOTE: ±0.05
- 1) MATERIAL : THICKNESS 0.51mm (25 SWG) ALUMINIUM SHEET.
 - 2) PRINTING:
 - a) BORDER LINE AND LETTERS WHITE ON BLACK BACKGROUND.
 - b) LETTER 'L' IN MONOGRAM IS BLACK ON WHITE BACKGROUND.
 - c) RECTANGULAR BLANKS WHITE, LETTERS BLACK.
 - d) LETTERS TO BE ETCHED.

REV.No.	DESCRIPTION	DATE	DRAWN	CHECKED	APPD.	STATUS
02	FIRST SUBMISSION	02.06.2023	K.B	KA	KA	KA
OWNER:	TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED					
CONTRACTOR:	AS APPLICABLE					
PROJECT:	AS APPLICABLE					
L.O.I No.:	AS APPLICABLE					
TITLE:	NAME PLATE - STN-DT					
DRAWING No.		SIZE	SCALE	TOTAL SHEETS	SH.No.	REV.
MEIL-APT-1239-GDV-S-8420002		A2	NTS	01	01of01	02

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