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1.0 SCOPE

This specification covers the design, manufacture, supply, testing, performance requirements and delivery of brass line tap.


The line tap shall conform to the relevant standards and be of high quality, robust and of good design and workmanship complete in all respects.

In actual practice, notwithstanding any anomalies, discrepancies, omissions, incompleteness, etc. in these specifications, the design and constructional aspects, including materials and dimensions, will be subject to good engineering practice in conformity with the required quality of the product, and to such tolerances, allowances and requirements for clearances etc. as are necessary by virtue of various stipulations in that respect in the relevant standards and other statutory provisions.


2.0 SYSTEM PARAMETERS

Unless otherwise specified in the Schedule of Requirements, the ZESCO distribution system parameters shall be taken to be as follows:

Item	Description	Unit	Nominal Voltage Level		
			33kV	11kV	0.4kV
1.	Nominal system voltage phase to phase	kV	33	11	0.4
2.	Highest system voltage phase - phase	kV	36	12	0.44
3.	System Frequency	Hz	50 ± 2.5%	50 ± 2.5%	50 ± 2.5%
4.	Method of System Earthing		Resist.	Resist. or Solidly	Solid
5.	Impulse withstand voltage (1.2/50 μsec wave)	kV peak	170	95	-
6.	Power frequency withstand voltage 1 minute	kV peak	70	28	3
7.	Substation clearances for equipment not subject to impulse tests				
	• Phase - earth	mm	320	250	100
	• Phase - phase	mm	320	270	100
	• Terminals across isolating distance	mm	380	270	150

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8.	Cable box clearances for fully insulated shrouded terminals <ul style="list-style-type: none"> Phase - earth Phase - phase Phase - earth over cable surface 	mm	100	32	20
		mm	125	45	20
		mm	250	125	25

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3.0 ENVIRONMENTAL PARAMETERS

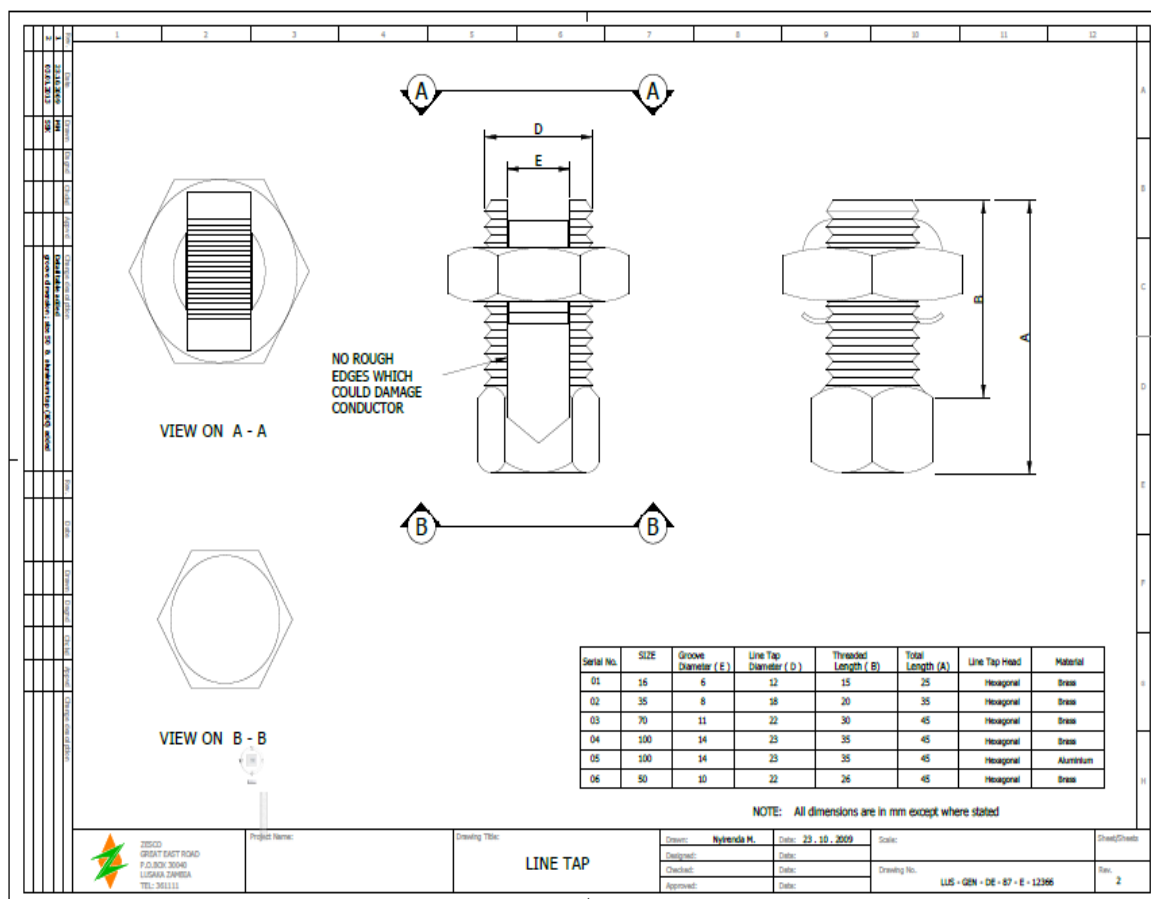
The line tap shall be capable of operating under the following environmental conditions:

- a) At an altitude of 1,400m above sea level;
- b) Ambient air temperature not exceeding a maximum of +45⁰C or below - 1⁰C with a daily maximum average of 35⁰C;
- c) Relative humidity of 85%;
- d) Exposed to direct tropical sun;
- e) Frequent and severe lightning storms occurring during summer months (isokeraunic level taken to be 86 days/year); and
- f) Exposure to dust which is prevalent for long periods in the year

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4.0 DETAILED REQUIREMENTS

4.1 Line Tap Drawing



4.2 Markings


Connectors shall be marked with Manufacturer's name or trademark and the conductor cross sectional areas or the conductor diameters of both the main and tap connections for which the connectors are designed

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5.0 TECHNICAL SCHEDULES (SCHEDULE A & B)

SCHEDULE A: MINIMUM ZESCO REQUIREMENTS

S/N	Technical Detail	Unit	Data
1.	Description		Line tap 70 mmsq
2.	Conductor cross section area	mm ²	70
3.	Material		Brass
4.	Corrosion protection		Nil
5.	Dimensions		As per Drawing No. LUS-GEN-DE-E-12366 below
6.	Detailed requirements as per clause 4.0		Required
7.	Drawings showing dimensions to be provided with the bid		Required
8.	Have Previous type test been provided with the bid?		Required
9.	Quality assurance certificate to be provided with the bid		Required
10.	Routine test results to be provided on delivery		Required
11.	Applicable standard(s)		IEC Standards

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SCHEDULE B: TO BE FULLY COMPLETED BY SUPPLIER

S/N	Technical Detail	Unit	Data
1.	Description		
2.	Conductor cross section area	mm ²	
3.	Material		
4.	Corrosion protection		
5.	Dimensions		
6.	Are detailed requirements as per clause 4.0?	Yes/No	
7.	Have drawings showing dimensions been provided with the bid?	Yes/No	
8.	Have Previous type test results been provided with the bid?	Yes/No	
9.	Have Quality assurance certificate been provided with the bid?	Yes/No	
10.	Will Routine test results be provided on delivery?	Yes/No	
11.	Applicable standard(s)		