# DE-ENERGIZED SWITCHES (TAP CHANGERS)

Rotary Type, 3-5 positions, Single and Three Phase



3 Phase Tap Changer



**Single Phase Tap Changer** 

# **FEATURES**

- Compact size reduces cost and reduces space required on transformer.
- Carefully selected, Imported electrical grade glass filled Nylon.
- Silver/Tin plated, 99.9% pure EC grade copper used in all terminals and plates.
- The leads are crimped onto the tap changer for no sparking and permanent fixing.
- All Viton ® rubber and SS hardware.
- Double O-ring sealing on shaft for best leakage characteristics.
- 100% material leak tested.
- ANSI type rotary tap changer complying with all relevant portions of IEC 60214-1.
- Optional hole type lugs also available.
- Optional hook type stick operated handle, which is also lockable.
- All external parts weather resistant.
- Interchangeability with most major international brands.



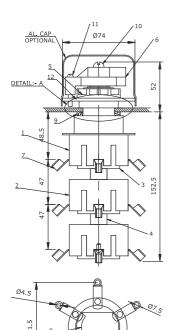
A House of Transformer Accessories

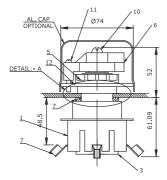
#### **GENERAL**

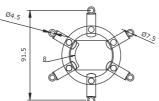
The VIAT 141 series of tap changers are off-circuit, rotary type tap changers, suitable for use in both pole and pad mounted distribution transformers. The product is mounted through the tank wall and is operated by hand from outside the transformer. The tap changers have silver plated EC grade copper lugs that are to be crimped on to the connecting leads inside the transformer.

The following routine or validation tests have been performed to validate key performance parameters

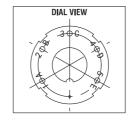
Test Specification for Key Tests	Acceptance Criteria
<b>Endurance and Contact Test:</b> Electrical contact resistance across each position in each phase measured. Then the tap changer is operated 300 times and electrical contact resistance measured again.	Resistance is less than $300\mu\Omega$
<b>Temperature Rise Test</b> : The copper alloy contacts are subjected to a current of 1.2 times the rated through current in oil.	The temperature of the contacts does not go up by more than 15 K above the ambient temperature of oil.
<b>Lightning Impulse Test</b> : $1.2/50\mu s$ impulse of 150 KV as in IEC 60060. Three applications of +ve polarity and 3 of -ve polarity.	No failure: of resistance between a) phase and earth b) phases c) any two adjacent contacts on the tap changer.
<b>Shaft Torque Test:</b> Torque applied to TC handle with TC at a end position till the point of failure.	Breakage torque should be greater than 140 Nm.
<b>Leak Test at 2 Kg/cm<sup>2</sup>:</b> Transformer side of tap changer pressurized to 2 kg/cm <sup>2</sup> pressure for 1 minute while TC is immersed in liquid.	No leakage observed as bubbles.
<b>Separate Source AC Withstand Test:</b> Single phase AC voltage of 50kV applied as in IEC 60060 for 60 seconds in transformer oil.	No failure: of resistance between a) phase and earth b) phases c) any two adjacent contacts on the tap changer



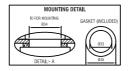




Single Phase Tap Changer



CHARACTERISTICS	RATING
OPERATING VOLTAGE	24KV
BETWEEN PHASES	150KV
BIL PHASE GROUND	150KV
BIL BETWEEN CONTACTS	40KV
OPERATING CURRENT	100A



### **Part List**

ITEM NO	DESCRIPTION	MATERIAL	
1	Main Body		
2	Adapting Piece	Electrical	
3	Long Axis	Grade Aliphatic	
4	Short Axis		
5	Lock Nut	Polyamide	
6	Handle		
7	Lug	EC Grade	
8	Contact Plate	Copper	
9	Gasket	VITON®	
10	Screw	SS	
11	Position Screw	SS	
12	Dial	Electrical Grade Aliphatic Polyamide	

SI. No. 2 & 4 Are Optional In 3Ø

Due to our policy of continuous product improvement, dimensions and designs are subject to change.



3 Phase Tap Changer

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