

CIRCUIT DIAGRAM FOR LOAD TEST ON SINGLE PHASE TRANSFORMER:

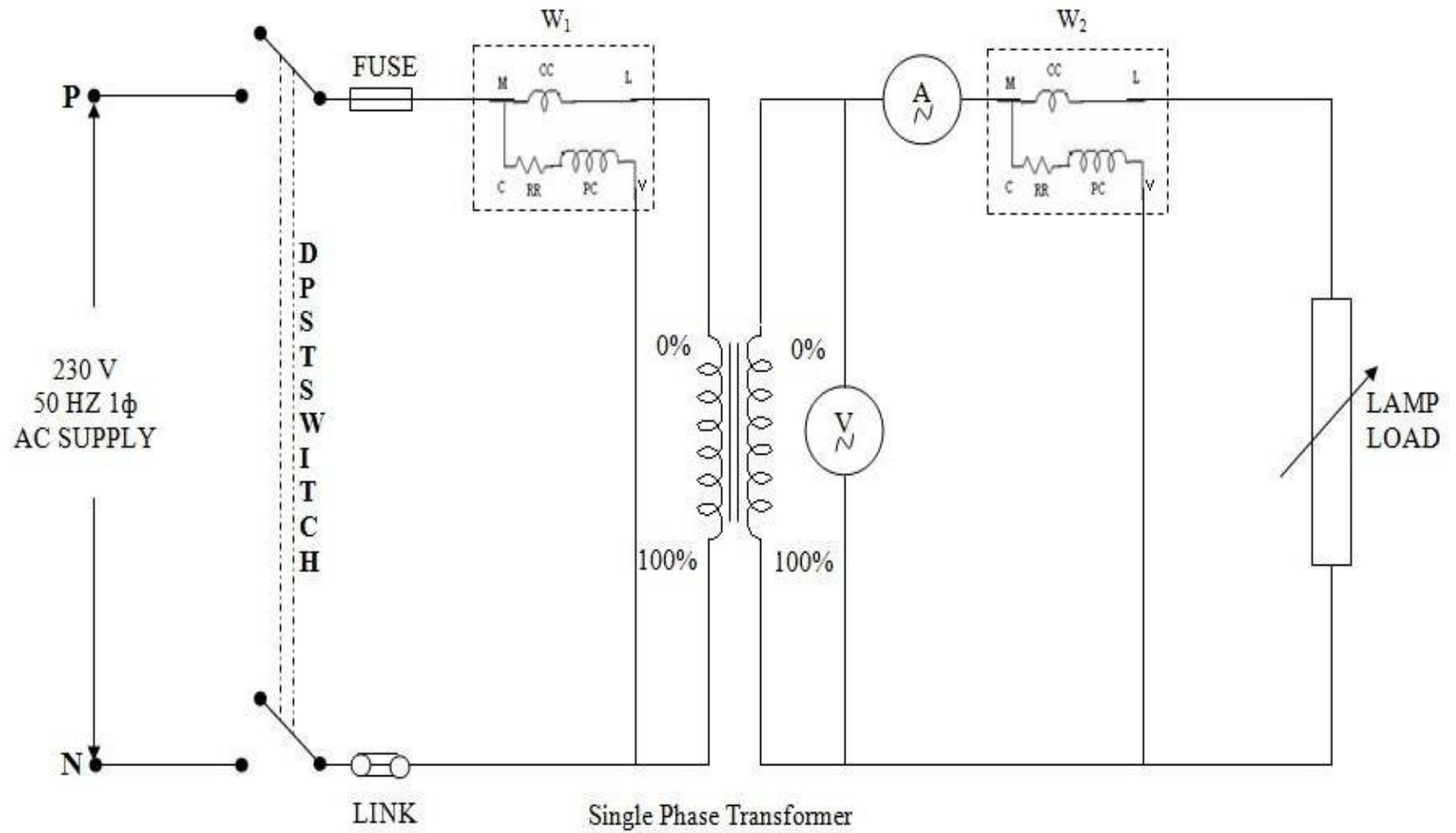


Figure 11.1 LOAD TEST SINGLE PHASE TRANSFORMER

Ex. No:	LOAD TEST ON SINGLE PHASE TRANSFORMER
Date :	

AIM

To draw the load characteristics of a given single phase transformer by conducting load test.

OBJECTIVE

To plot the following graphs

1. Load current Vs efficiency
2. Load current Vs % regulation

APPARATUS REQUIRED

S.NO	APPARATUS NAME	RANGE	TYPE	QUANTITY
1.	Transformer			
2.	Ammeter			
3.	Voltmeter			
4.	Wattmeter			
5.	Lamp Load			

FORMULA USED

$$1. \text{ Percentage of efficiency} = \frac{W_2}{W_1} \times 100$$

$$2. \text{ Percentage of up regulation} = \frac{V_{nl} - V_{fl}}{V_{fl}} \times 100$$

$$3. \text{ Percentage of down regulation} = \frac{V_{nl} - V_{fl}}{V_{nl}} \times 100$$

Where W_1 = is the input power in watts

W_2 = is the output power in watts

V_{fl} = is the full load voltage in volts

V_{nl} = is the no load voltage in volts.

PRECAUTIONS

1. Fuse should be selected such that its current rating is 120% of no load current of the transformer.
2. The DPST switch is kept opened at the time of starting the experiment while giving connections.
3. The load should be in the off position while at the start of the experiment.

PROCEDURE

1. The connections are made as per the circuit diagram shown in the diagram.
2. The DPST switch is closed and the supply is given to the circuit
3. The no load readings are noted.
4. By varying the lamp load in steps, corresponding ammeter, voltmeter and wattmeter readings are noted down.
5. The same procedure is repeated up to the rated current.
6. All the readings are tabulated in tabular column and required quantities are calculated to draw characteristics curves.

MODEL CALCULATION

MODEL GRAPH:

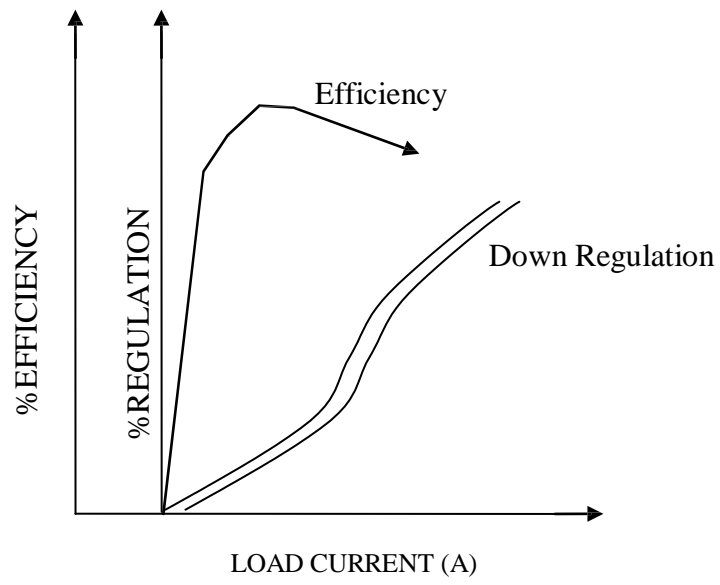


Figure 11.2 Performance Curve