

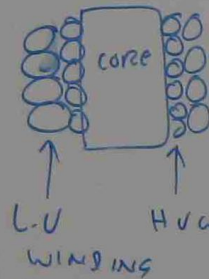
## INSTRUMENT TRANSFORMERS

CURRENT TRANSFORMER + POTENTIAL TRANSFORMER

↑  
TO REDUCE CURRENT

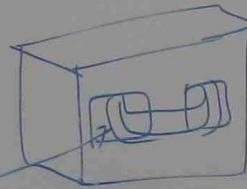
↑  
TO REDUCE THE VOLTAGE FOR MEASURING  
EQUIPMENTS / RELAY.

### POWER TRANSFORMER -



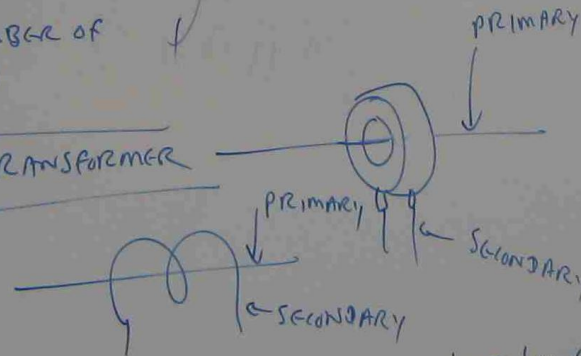
(SMALLER  
NO. OF  
TURNS)

PRIMARY + SECONDARY



PRIMARY AND SECONDARY  
MAGNETIC CIRCUITS ARE  
CLOSELY COUPLED.

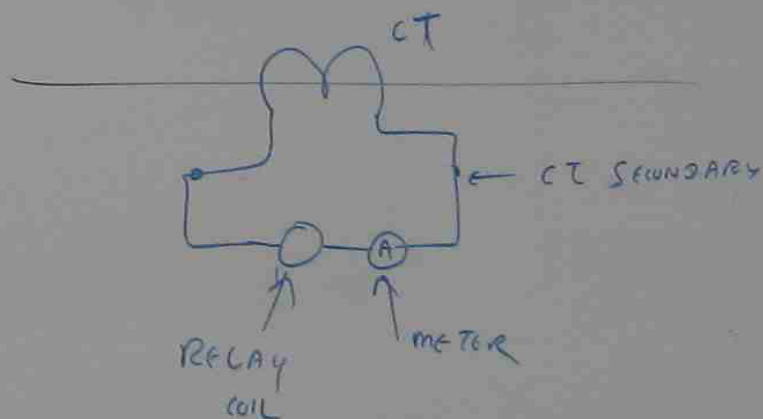
### CURRENT TRANSFORMER



PRIMARY & SECONDARY CIRCUITS ARE LOOSELY COUPLED.

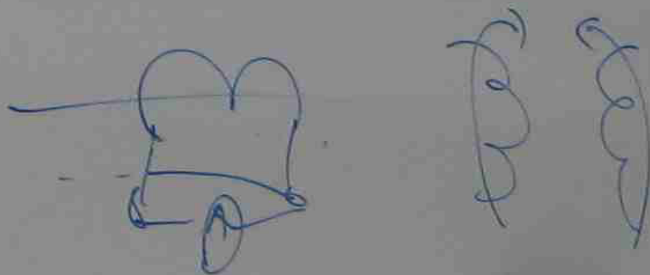
IN CT, PRIMARY & SECONDARY MAGNETIC CIRCUITS ARE LOOSELY COUPLED.  
FLUX LEAKAGE IS THE MAJOR FACTOR ON TURN RATIO

### BURDEN IMPEDANCE EFFECT



BURDEN IMPEDANCE  
= TOTAL IMPEDANCE  
CONNECTED TO  
CT SECONDARY

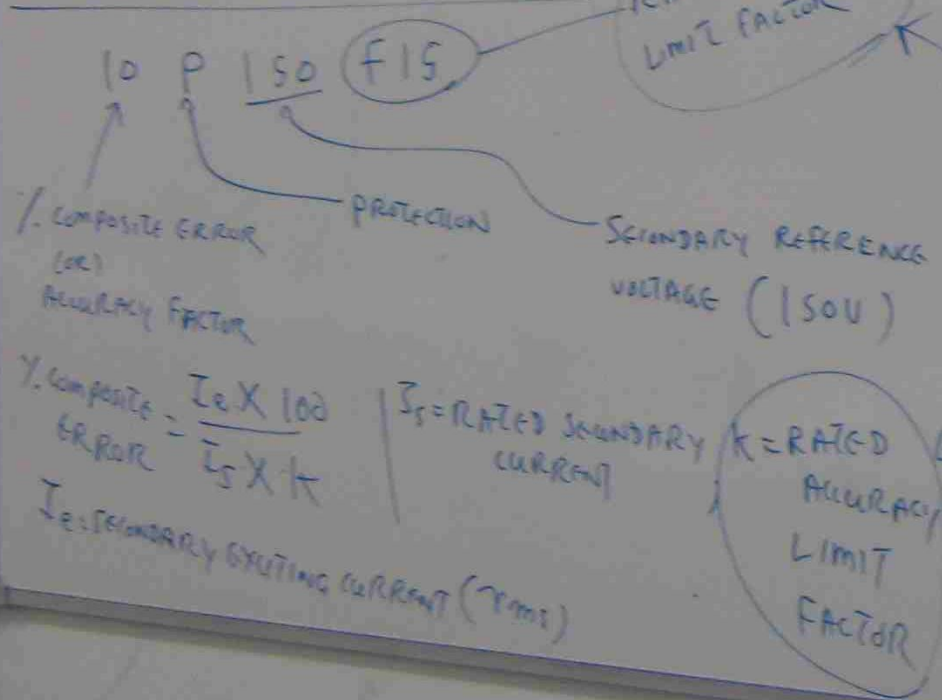
TOTAL IMPEDANCES OF THE EQUIPMENTS CONNECTED TO  
C.T SECONDARY AFFECTS THE ACCURACY OF CT.



# TERMINAL MARKINGS OF CT

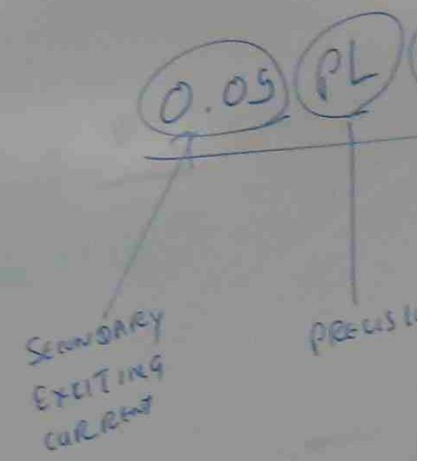
PRIMARY	SECONDARY
$P_1, P_2 \dots P_n$	$S_1, S_2 \dots S_m$
$M, L, T_1, T_2$	$(M), (L), (T_1), (T_2)$

## INTERPRETING CT SPECIFICATIONS



$$\% \text{ Composite Error} = \frac{I_e \times 100}{I_s \times K}$$

$I_e$ : Secondary Exciting Current (rms)



0.05 PL 950 R3

SECONDARY WINDING  
RESISTANCE 3% AT 75°C

SECONDARY  
EXCITING  
CURRENT

PRECISION

KNEE POINT VOLTAGE

METERING

