

4.4.01-00 Transformer



What you can learn about ...

- Induction
- Magnetic flux
- Loaded transformer
- Unloaded transformer
- Coil

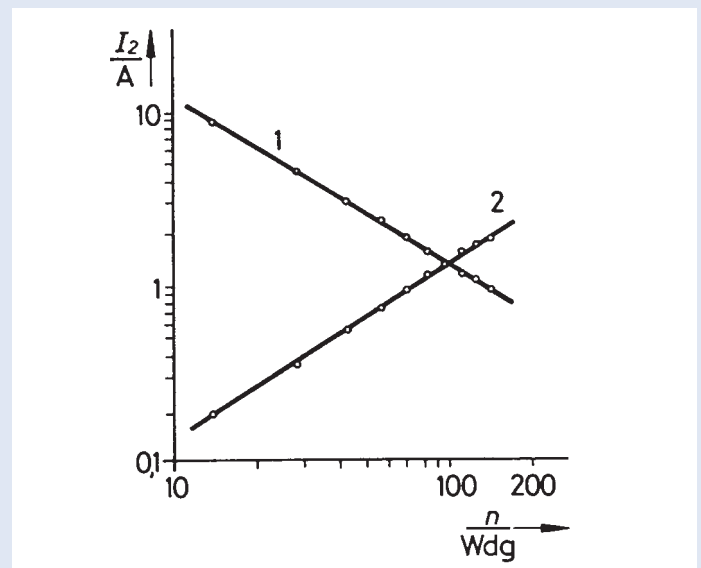
Principle:

An alternating voltage is applied to one of two coils (primary coil) which are located on a common iron core. The voltage induced in the second coil (secondary coil) and the current flowing in it are investigated as functions of the number of turns in the coils and of the current flowing in the primary coil.

What you need:

Coil, 140 turns, 6 tapings	06526.01	2
Clamping device	06506.00	1
Iron core, U-shaped, laminated	06501.00	1
Iron core, rod shaped, laminated	06500.00	1
Multi-tap transformer with rectifier 14 VAC/12 VDC, 5 A	13533.93	1
Two-way switch, double pole	06032.00	1
Rheostats, 10 Ω , 5.7 A	06110.02	1
Digital multimeter 2010	07128.00	3
Connecting cable, 4 mm plug, 32 A, red, $l = 50$ cm	07361.01	6
Connecting cable, 4 mm plug, 32 A, blue, $l = 50$ cm	07361.04	6

Complete Equipment Set, Manual on CD-ROM included
Transformer P2440100



Secondary short-circuit current of the transformer as a function
1. of the number of turns in the secondary coil,
2. of the number of turns in the primary coil.

Tasks:

The secondary voltage on the open circuited transformer is determined as a function

1. of the number of turns in the primary coil,
2. of the number of turns in the secondary coil,
3. of the primary voltage.

The short-circuit current on the secondary side is determined as a function

4. of the number of turns in the primary coil,

5. of the number of turns in the secondary coil,
6. of the primary current.

With the transformer loaded, the primary current is determined as a function

7. of the secondary current,
8. of the number of turns in the secondary coil,
9. of the number of turns in the primary coil.