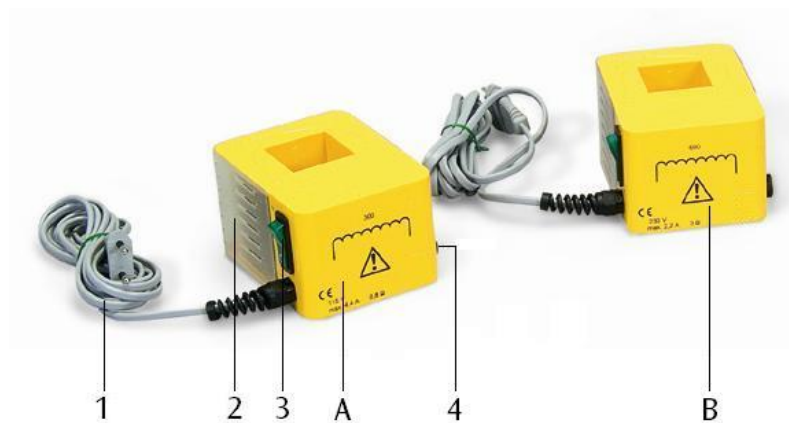


Mains Coil with Connecting Lead @115 V 1000986
Mains Coil with Connecting Lead @230 V 1000987

Instruction sheet

06/15 SP/ALF



- A Mains coil for mains voltage 115 V
- B Mains coil for mains voltage 230 V
- 1 Mains lead
- 2 Air vents
- 3 Mains switch
- 4 Fuse

1. Safety instructions

- The coil operates at mains voltage. Depending on the set-up of the transformer, it may be possible to come into contact with dangerous voltages at the secondary coil.
- The resulting magnetic fields can cause damage to or even destroy electrical/electronic components and equipment or electromagnetic storage media. Such items must be kept away from the coil by at least the amount specified for safety.
- The safety of operators and of the mains coil itself can only be guaranteed when it is used according to the instructions.
- Do not exceed the maximum voltage over any length of time.
- If the coils should become overloaded, they must be allowed to cool before switching on the current again.
- Do not cover air vents.
- Disconnect the coil from the mains before replacing the fuse.
- Any modifications to the transformer set-up must be made with the primary voltage switched off.

- Never apply voltage to the mains coils without an iron core inside.
- Always use safety cables for experiments.
- Do not turn on the mains coil until the experiment set-up is complete.
- Do not open the case.
- Do not allow the equipment to come into contact with liquids.
- The coil may be operated without the core being closed by a yoke (e.g. in Thomson's ring experiment) for no more than 10 seconds.

2. Description

The mains coil with connecting lead is intended for use as the primary coil for the demountable transformer D.

Coils are made of impact-resistant plastic, safe to touch. Number of turns, maximum current for long-term operation, effective resistance and inductance are specified on the case of the coil.

2.1 Accessories

Transformer Core D 1000976

Metal Ring for Thomson's experiment 1000992

Coils:

| Item | Cat. no. | Winding turns | Tap(s) |
|---------------------------------------------------------|----------|---------------|---------------|
| Low Voltage Coil D | 1000985 | 72 | 6/30/54/66/72 |
| Coil D | 1000988 | 600 | 200/600 |
| Coil D | 1000989 | 1200 | 400/1200 |
| Coil D | 1000990 | 6000 | 2000/6000 |
| Fusion ring | 1000980 | 1 | |
| High current coil with 5 turns Coil for spot welding | 1000981 | 5 | |
| High current coil D for nail fusing experiment | 1000984 | 6 | |
| High voltage coil D including 2 horn shaped electrodes | 1000991 | 24000 | |

3. Technical data

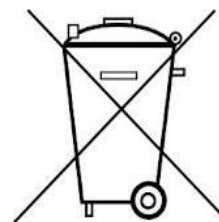
| | 1000986 | 1000987 |
|--------------------------------|---------------------------|---------------------------|
| Mains voltage | 115 V, 50/60 Hz | 230 V, 50/60 Hz |
| Winding turns | 300 | 600 |
| Resistance | 0.75 Ω | 3 Ω |
| Inductance | 7.5 mH | 15 mH |
| Max. current for long-term use | 4.4 A | 2.2 A |
| Dimensions | 120x90x70 mm ³ | 120x90x70 mm ³ |
| Opening for iron core | 42 x 42 mm ² | 42 x 42 mm ² |
| Weight | 0.9 kg approx. | 1.2 kg approx. |

4. Replacing the fuse

- Disconnect the coil from the mains.
- Turn the fuse holder a quarter turn to the left.
- Pull out the fuse holder.
- Remove the blown fuse from the holder and replace it with a new one.

5. Storage, cleaning and disposal

- Keep the coil in a clean, dry and dust-free place.
- Before cleaning the coil, disconnect it from its power supply.
- Do not clean the coil with volatile solvents or abrasive cleaners.
- Use a soft, damp cloth to clean it.
- The packaging should be disposed of at local recycling points.
- Should you need to dispose of the coil itself, never throw it away in normal domestic waste. Local regulations for the disposal of electrical equipment will apply.



6. Example experiments



Fig.1 Step-up transformer

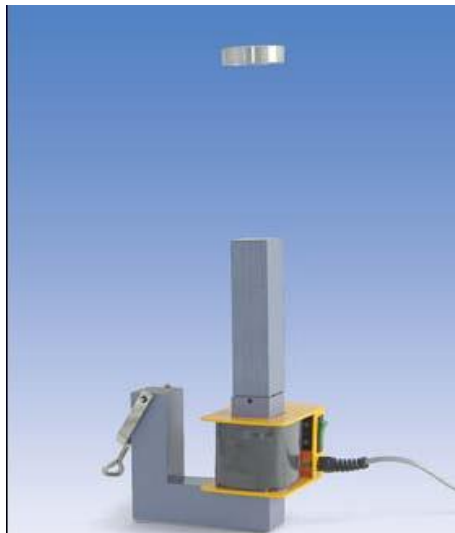


Fig. 2 Thomson's ring experiment

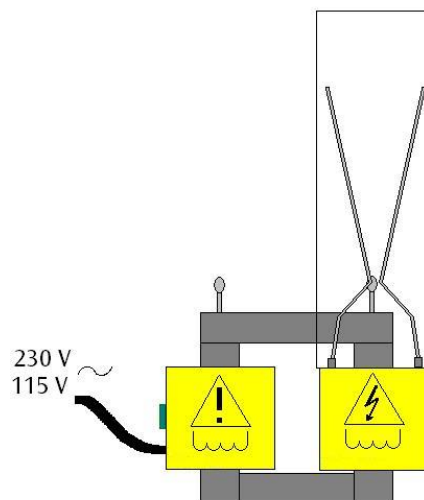


Fig. 3 Spark discharge along hornshaped electrodes

