
TEST SETUP MAGNETIC FIELD COIL

USER MANUAL

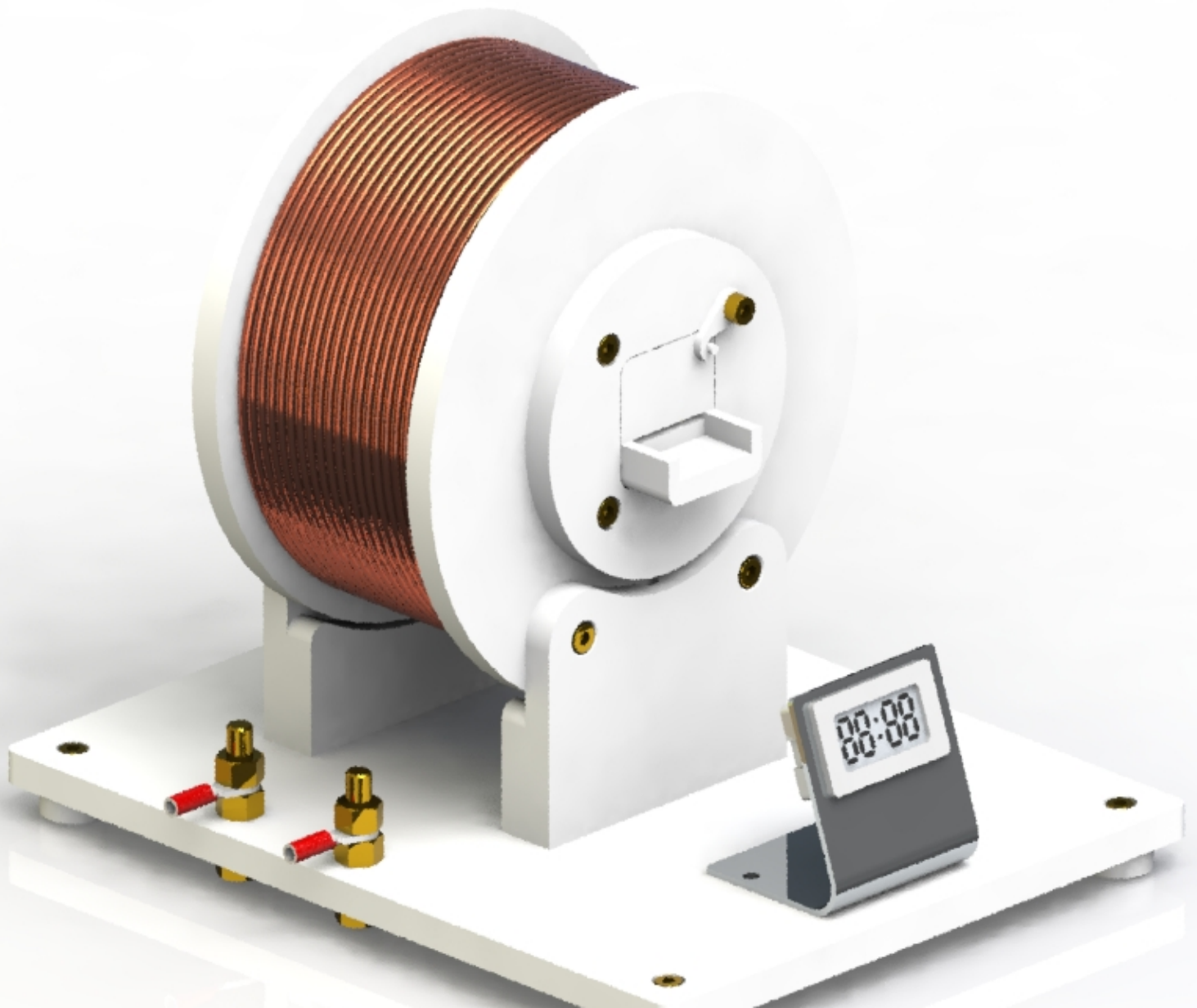


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Introduction & Application

The Setup Assembly is a table top device / product to be used for Hall sensor IC calibration. The copper wire wound on the setup provides a controlled/adjustable magnetic field when energised with electrical power. The device requires a power source of 25 Volts with 16 Amps (maximum). It has a power consumption of 400Watts.

The Hall sensor IC can be calibrated / programmed to achieve a certain range of sensitivity. However, to accurately calibrate / program the IC, an external magnetic field is required. The setup combined with a variable power supply of 25 volts 16 amps would allow the user to vary the magnetic field density from 0~140mT. This simply allows the user to calibrate the IC as per their needs.

A Hall effect sensor is a device that is used to measure the magnitude of a magnetic field. Its output voltage is directly proportional to the magnetic field strength through it. Hall effect sensors are used for proximity sensing, positioning, speed detection, and current sensing applications. In a Hall effect sensor, a thin strip of metal has a current applied along it. In the presence of a magnetic field, the electrons in the metal strip are deflected toward one edge, producing a voltage gradient across the short side of the strip (perpendicular to the feed current).

Hall effect sensors have an advantage over inductive sensors in that, while inductive sensors respond to a changing magnetic field which induces current in a coil of wire and produces voltage at its output, Hall effect sensors can detect static (non-changing) magnetic fields. In its simplest form, the sensor operates as an analog transducer, directly returning a voltage. With a known magnetic field, its distance from the Hall plate can be determined.

Specifications

<i>Parameters</i>	<i>Values</i>	<i>Units</i>
Input Voltage	25	V (DC)
Input Current	16.2	A Max
Power Rating	405	W
Total Electrical Resistance	1.6	Ohms
Field Produced	131	mT
Wire Gauge	14	SWG
Copper Diameter	2.032	mm
Number of Turns	851	turns
Operating temperature	45	°C (Max)
Temperature Sensor Range	-50 to +110	°C
Total Weight	n/a	Kgs
Overall Dimensions	280x220x230	mm
At 5 Amps	24.99	mT
At 10 Amps	49.99	mT

Thermometer Specifications

<i>Parameters</i>	<i>Values</i>	<i>Units</i>
Waterproofing (Sensor tip)	IP68	-
Measurement Depth	40	mm
Meter Type	Digital	-
Accuracy	+/- 1	°C
Range	-50 to +110	°C
Battery Type	Ir44	V (1.5V each)
Number of Batteries	2	Quantity
Battery level indicator	included	-

Support & Manufacturer Warranty

We stand by our products! That's why we guarantee them from any functional defects for 1 year from the original date of purchase.

If you have any issues with your product please email us at sales@pmlindia.com, info@maglab.ch or visit us on our web pages at www.pmlindia.com or www.maglab.ch

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