

Induction Coil Mount & Sensing IHC-50

Experiment mounting platform with feedback coil for CRO-SM3 induction projects



Features and Specifications

- 50 x 50 mm platform to tack with CRO-SM3
- Integrated coil for measuring and testing magnetic fields
- Grid & markings for project alignment
- Available with custom wound coil

Example Applications

- Material Testing
- Wireless Chargers
- Magnetic Experiments
- Frequency monitoring

Typical Usage

The IHC-50 is designed to support an induction coil which can then mount above a CRO-SM3 stack of modules or as a separate unit with a coil fixed onto the PCB surface.



Figure 1: Example of mounted pancake coil



Figure 2: Example of mounted solenoid coil



Figure 3: Top side of PCB



Figure 4: Bottom side of PCB

Connections

Coils can either be soldered to the relevant pads near T1/T2 or they can be terminated with ring terminals for easy removal. When mounted on the CRO-SM3 module stack, T1/T2 will be linked with the other components via the mounts used.

A standard SMA connector at the edge of the PCB is available for linking with an oscilloscope. The signal at this port depends on the resistor configuration chosen and can be either connected to the feedback coil, or to the T1 terminal for measurement of coil voltages.

Connection to the CRO-SM3 driver and DT-200 capacitors is made when mounting into the stack, or can be made using suitable cables.

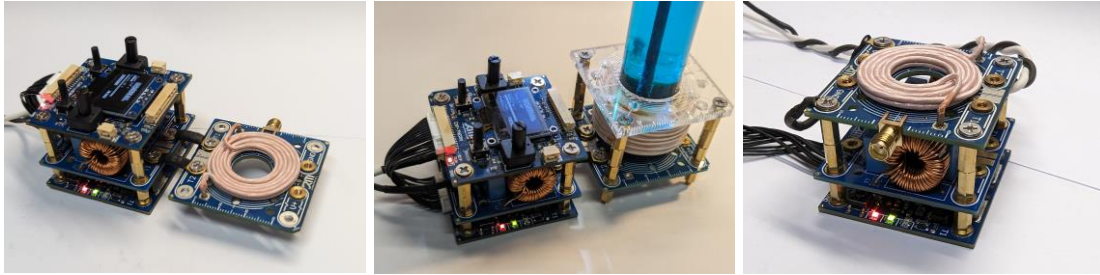


Figure 5: Example coil setups

Feedback Coil & Resistors

The integrated feedback coil consists of four turns made using the copper layers in the PCB. Each turn has a diameter of 18mm made using a 0.5mm trace rated for 1A. The central hole in the PCB is 15mm diameter.

A solenoid coil such as this can be useful for measuring frequency and changes in magnetic fields. It is not designed for measuring the magnetic flux density, as this would require a Rogowski coil.

The resistor configuration chosen will alter the way signals are directed to the SMA connector. There are four places to fit standard 1206 size resistors.

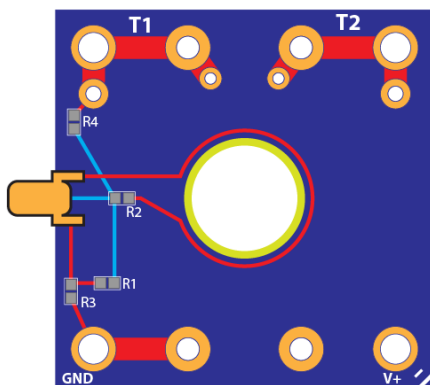


Figure 6: Wiring diagram viewed from component side

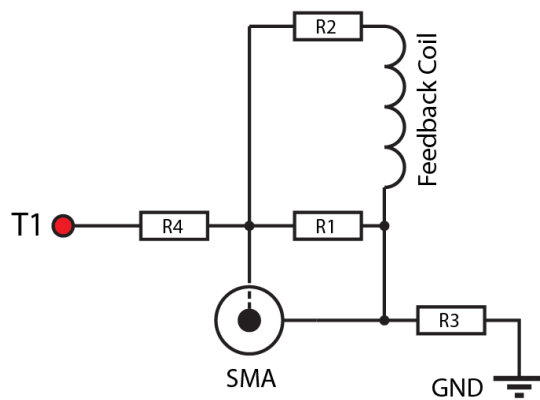


Figure 7: Circuit diagram

Available Configurations

The IHC-50 is available in several versions with pre-configured resistors. We can make to order other configurations if required. Just let us know your requirements.

Model Number	Details
IHC-50	No resistors fitted You will need to fit your own resistor network in order to measure a signal from the SMA connector
IHC-50-R47	Fitted with a 47R resistor at R2 The feedback coil is connected to the SMA connector with a series resistor of 47 ohms. This is typical for measuring the magnetic field and provides isolation for the oscilloscope.
IHC-50-10KT1	Fitted with a 10k resistor at R4 and 0R link resistor at R3 T1 is connected to the SMA connector with the shield connected to circuit GND.

Customisation is available for this product



We can make custom coils, and help integrate it into your project. Call or email to discuss your requirements.

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CRO-SM3

DT-200

EXP-THERM1

CAB-JSTGH

IHC-CUST

LITZ

FP-NIZNMNZN

NMMK-M3

CHK-15A

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