Product Brochure

IFM06 – Integrating Fluxmeter

The IFM06 digitally integrating fluxmeter is the most accurate and stable Hirst fluxmeter so far (and supplied fully calibrated). This 6th generation of integrating fluxmeter incorporates the Hirst propriety Zero Drift Technology (ZDT) providing the most stable flux readings available in this the latest generation Hirst instrument.

The IFM06 Fluxmeter measures the total magnetic flux with an external coil (usually Helmholtz for measurement or a search coil or custom coil fixture for production magnetisation). In a production environment the Fluxmeter when used with a search coil can be integrated with Hirst Magnetisers and other production control systems via a range of industry standard interfaces to optimally magnetise the production part and generate the highest yield production process possible today.

Key benefits

- **High stability and Automatic Drift Correction** -via proprietary Hirst Zero Drift Technology (ZDT)
- **Accuracy and reproducibility** of +/- 0.5% supplied calibrated and ready to use.
- **Resolution** - Get the best measurement resolution with 4 high sensitivity measurement ranges.
- **Easy-to-use** - 7inch touch screen display for fast set-up and robust buttons for taking simple measurements.
- **Choice of Measurement units** - The IFM06 can measure magnetic flux, magnetic flux linkage, magnetic flux density or magnetic field strength with direct readings in Volt-Seconds, Webers, Maxwells, Tesla*, kA/m*, Oersted* and Gauss* (* with a calibrated coil).
- **Coils** - Customisable with a wide variety of measuring coils (Helmholtz coil for measurement / quality control applications or a custom search coil or coil fixture for production magnetisation).
- **User customisable** graphical display options allow deeper understanding of the measured signal over time.
- **Communications** - A range of industry standard connectors USB, RS232, PLC Digital Interface, Analogue Outputs to access SCPI Instrument Control and CANopen interfaces to allow data logging and integration into production systems and control of Hirst magnetisers and de-magnetisers.
- **Production control** - Programmable with user modifiable measurement, magnetisation / de-magnetisation control programmes with pass/fail limits.
- **High Security** - Admin passcode lock for production applications.

Applications

- Designed for both factory floor and laboratory use across a range of applications (motors, loudspeakers, sensors, metrology and materials research)
- Laboratory based magnetic field measurement of soft and hard magnetic materials using Helmholtz coil pairs
- Quality control of permanent magnet and single pole assemblies such as magnetised sensor components, magnet assemblies and loudspeakers with precision sample holder options to increase measurement accuracy.
- High yield industrial magnetisation - the IFM06 fluxmeter providing the feedback in closed loop control of Hirst magnetiser systems for optimal yield in production-line magnetisation of permanent magnet rotors, sensors, loudspeakers and other applications.

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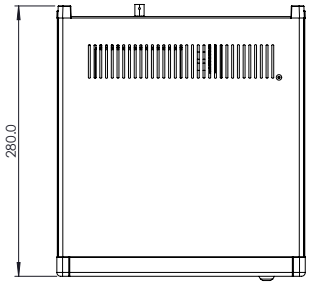
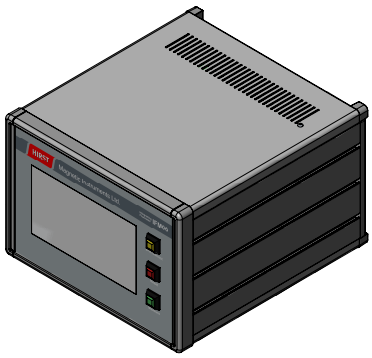
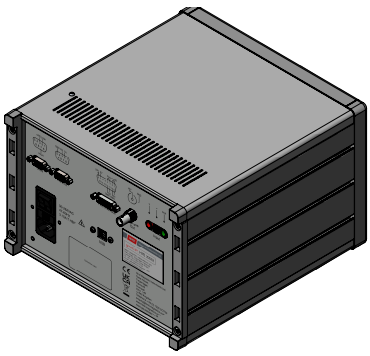
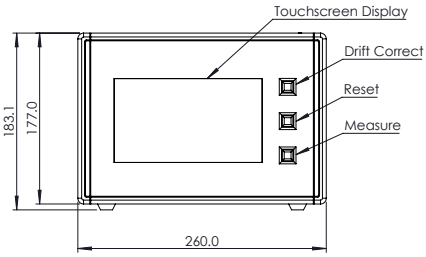
Technical Data

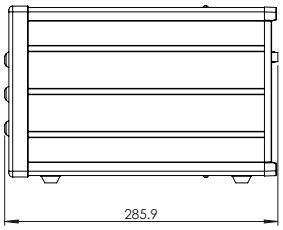
Accuracy	+/-0.5% (DC) Traceable
Measurements Units	Vs, Wb, Mx, Tesla*,kA/m*, Oersted*, Gauss* (* With calibrated coil)
Reproducibility	+/- 0.5%
Measurement Range 1	+/- 1.00000 mVs resolution 10nVs
Measurement Range 2	+/- 10.0000 mVs resolution 100nVs
Measurement Range 3	+/- 100.000 mVs resolution 1uVs
Measurement Range 4	+/- 1.00000 Vs resolution 100uVs
Measurement functions	DC, DC Peak, AC, AC Peak, (AC sampled at 2kHz)
Signal Input / Coil connections	2x 4mm “banana” plugs
Analogue Output	+/- 5V BNC connector
Communications and interfaces	RS232, USB, CAN bus (open Can), PLC interface
Display	7” touch screen graphics display updated showing waveforms of current measurement
Dimensions / Weight	260 x 180 x280mm approx. / 1.1kg
Operating Temperature Range	+5° C to +40° C
Power Supply	90-264 VAC / 47-63 Hz

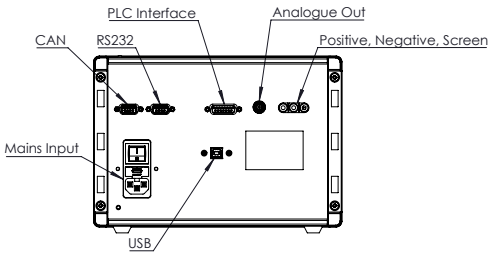












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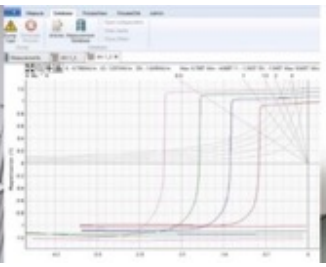
Warranty and Calibration

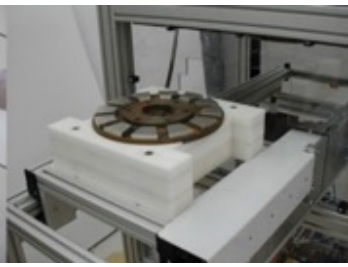
Supplied calibrated with 1 year warranty. A calibration is required every year to maintain the highest levels of performance – Hirst has a dedicated team of installation and service engineers, available to travel worldwide to install and support equipment, service contracts are available. See website for details.

Application examples and Accessories

Above an IFM06 with a Hirst 300mm (HH-300) Helmholtz coil pair used for permanent magnet measurement and quality control applications see Hirst Helmholtz coil selection guide and application note.

Above an IFM06 used as a production controller providing feedback to control a Hirst M40kJ Magnetiser with a custom Magnetising fixture in an automotive EV motor production application.

Hirst Magnetic Instruments has been active in providing solutions for 60 years in magnetics and magnetic measurement. Hirst manufactures precision hand-held gaussmeters, Fluxmeters, de-magnetisers, bench top & workstation industrial magnetisers, industrial production-line magnetisers, pulse field magnetometers (PFMs) for developing characterising magnetic materials and many custom projects.

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