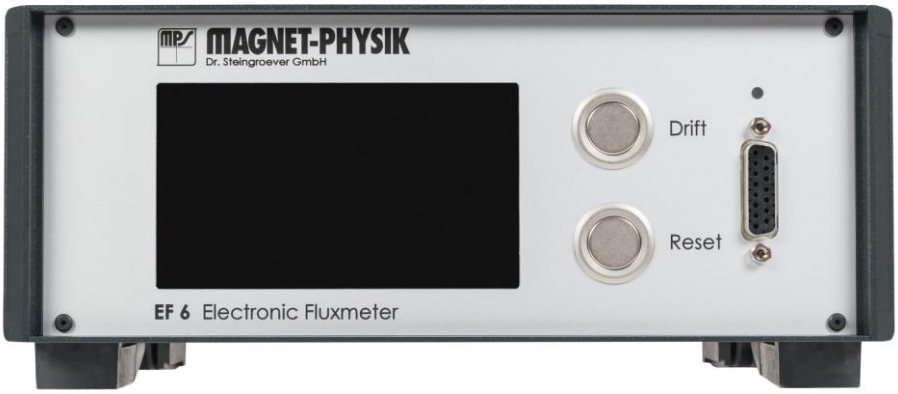
ELECTRONIC FLUXMETER EF 6



Description

The Electronic Fluxmeter EF 6 is designed to measure the magnetic flux using measuring coils. It comprises a precision digitally compensated DC integrator of high sensitivity and extremely low drift. The integrator allows always to stay internally in the finest measuring range and to measure arbitrarily large values. Unlike classical measuring instruments, no resolution is lost (no coarsening of the measured value) with high measuring signals. This special operating principle is unique worldwide and the unique selling proposition of the instrument. It also allows fast resets and short cycle times.

Key features:

- Microprocessor controlled, easy operation
- Automatic drift correction
- Unique digitally compensated integrator: measuring range limits must not be observed
- Self-calibration by built-in voltage-time reference
- Complete menu control, the two most important functions are directly accessible via push buttons
- Memories to store parameters of self-made coils (measuring coil constants, resistances, etc.)
- Memories to store measured data
- Convenient input of coil data and limits via the touch display
- Automatic calculation of measuring results taking into account the coil parameters
- Directly reading in Volt-Seconds, Weber, Tesla, Gauss or many other units
- Automatic coil recognition and instrument configuration for measuring coils with data memories
- 4 limit comparators with photo-relay outputs for process control
- Modern, compact design

Applications and Measuring Quantities

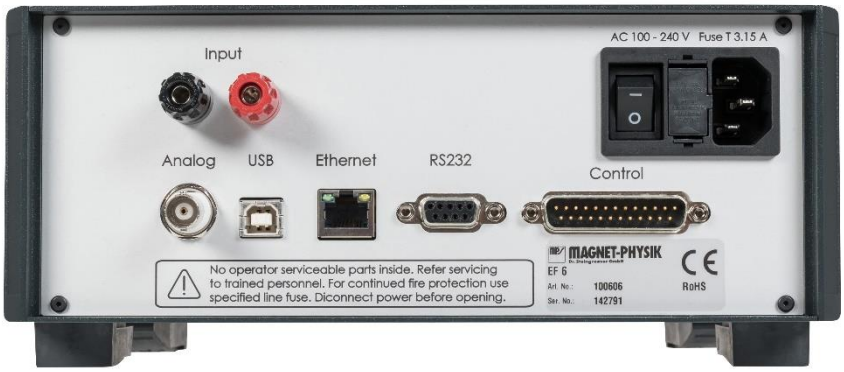
The EF 6 is applied in the following areas:

- Quality control of permanent magnets
- Quality control of soft magnetic components
- Quality control of magnet systems (motors, loudspeakers, magnetic clamps)
- Materials research
- Development of magnet systems
- Magnet testing
- Magnet sorting
- Material analysis
- Automated testing
- Process control

The following quantities can be measured with the EF 6 and appropriate coils:

- Magnetic flux
- Magnetic flux density / induction
- Magnetic field strength
- Magnetic potential / tension
- Magnetic moment
- Magnetic dipole moment
- Magnetic polarization

The EF 6 is perfect for use in hysteresis measuring instruments to record the hysteresis loops of soft and hard magnetic materials.



Rear view of Electronic Fluxmeter EF 6

Technical Data

Measuring inputs	1 integrator channel
Display	TFT 4.3", 95 mm x 54 mm, 480 x 272 dots, capacitive touch
Reading	Max. 6 digits plus 2 digits for exponent
Resolution	10^{-4} / 10^{-5} / 10^{-6} / 10^{-7} Vs
Upper range limits	Not applicable, due to the digitally compensated integrator
Input resistances R_i	0 Ω, 10 kΩ
Drift per minute	< 10^{-6} Vs (R_i + R_S ≥ 10 kΩ, R_S is the measuring coil resistance)
Units (depending on coil type)	Vs, Wb, Mx, T, G, Vs/cm², A/m, Oe, Vs cm, A, Vs/n (per turn)
Basic accuracy	0.25 % of reading
Precision (reproducibility)	0.1 % of reading
Input socket	15-pin Sub-D socket on the front, laboratory sockets on the back for self-made or ready-made coils
Maximum input voltage	60 V
Measurements per second	25, 30 or 50
Trigger	Internal, external
Extreme values	|Max.|, Max., Min., Max.-Min.
Analog output	0 - 5 V, 0 - 10 V, ±5V, ±10 via 16-bit DAC, The assignment of the output voltage to the measured values can be set by the user.
Interfaces	RS232, USB (HID, CDC), Ethernet (Webserver, TCP (Telnet), UDP), 24 Volt digital I/O, e. g. for programmable logic control (PLC)
Limit comparator	4 trip points, photo-relay outputs (alternators)
Measured data memory	Memory for up to 100 measured values. The values are kept in memory when the instrument is switched off
Coil data storage	Memory for up to 10 coil data sets. The values are kept in memory when the instrument is switched off
Power supply	AC 100 - 240 V, 50 - 60 Hz, 25 W max
Weight	2.3 kg
Housing	Benchtop case with pedestals
Width / Depth / Height	236 mm / 270 mm / 114 mm

Due to continuous product improvements, specifications are subject to change without notice.

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