



## Magnetic Field Compensation System MK1-HM

Single axis compensation  
of low frequency magnetic field disturbances



### Features

- magnetic field measurement with high resolution fluxgate sensors
- meas. range 200  $\mu$ T, DC to 1 kHz
- selective compensation of different frequencies through switchable filters
- modular system equipped with up to three magnetometers and filters
- integrated power amplifier for direct connection of compensation coils
- designed for permanent operation

### Applications

- reduces magnetic field disturbances in MRI applications
- compensation of power line frequencies (50/60 Hz)
- compensation of 16 2/3 Hz (railway) or other custom frequency
- suppression of slow or stepped magnetic field changes caused by vehicles, moved magnetic objects, elevators, etc.

## Specifications of frame unit with power amplifier

supply voltage	230/110 V, AC 50/60 Hz
current consumption	0.5 A
enclosure	aluminium 19 inch, 3 HU, 320 mm depth
operating temperature	0 to 40 °C
preamplifier gain	0 to 11, adjustable in steps
gain of poer amplifier	0.5 A/V
max. output current	2.5 A
min. load for permanent operation	$\geq 3 \Omega$
compliance at 2.5 A	typ. $\pm 7 V$

## Specifications of magnetometer

display	3 <sup>1/2</sup> digits LC display with sign
switchable measurement ranges	$\pm 19.99 \mu T$ , $\pm 199.9 \mu T$
display resolution	10 nT
noise	<0,7 nT RMS
accuracy	0.5 % $\pm 25$ nT $\pm 1$ digit
offset stability	<0.1 nT/K
scale factor stability	<40 ppm/K
offset adjustment	$\pm 500 \mu T$ coarse and fine
stability of offset setting	<40 ppm/K
analog output	0.03 V/ $\mu T$ , short circuit protected, BNC connector
output voltage range	typ. -6 V to +6 V
bandwidth	0 to 1 kHz (-3 dB)
sensor cable	10 m long, shielded
sensor dimensions	30 mm $\times$ 30 mm $\times$ 15 mm

## Specifications of filter unit

filter channels	1 low pass, 2 band pass filters
band pass filter type	biquad active filter, 2nd order
bandwidth (-3 dB)	$\sim 2.6$ Hz
frequency corners	16 2/3 Hz (or custom) and 50 Hz (or 60 Hz)
adjustment range of phase shift	-90 ° to +30 °
channel separation	>20 dB

Changes without notice.