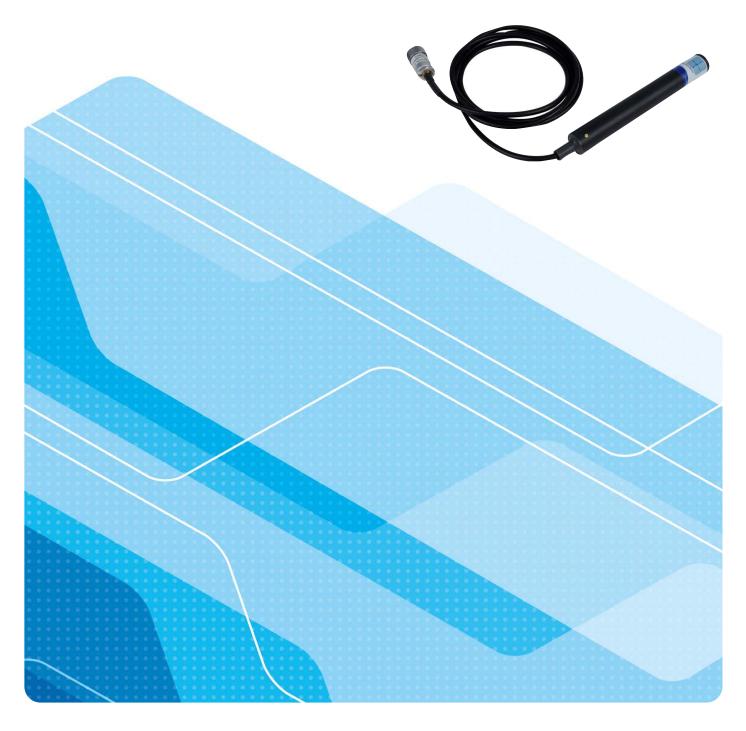
## **Mag639**

Three-Axis Magnetic Field Sensor







# Mag639 Three-Axis Wide Bandwidth Magnetic Field Sensor

This wide bandwidth fluxgate sensor allows for measurements from DC to 12kHz of field strengths up to  $\pm 100 \mu T.$ 

Creation of eddy currents is prevented by a nonconductive, cylindrical enclosure. A 2.5m shielded cable removes the sensor connector from the immediate proximity of fluxgates. The three concurrent fluxgate elements minimise the effect of high magnetic field gradients.



#### **Features**

- Wide bandwidth DC to 12kHz
- Noise level <20pTrms/√Hz at 1Hz</li>
- ±100µT measuring range
- Concurrent axes (single point of intersection)
- Environmentally sealed to IP65

## **Typical Applications**

- Time-domain electromagnetics (TDEM)
- Magnetotellurics (MT)
- EMC Interferences measurement
- Unexploded ordnance (UXO) detection



## Specifications

Performance	
Number of Axes	Three
Polarity	+ve non-inverting output when pointing North
Measuring range	±100μT
Bandwidth (-3dB)	0 to 12kHz (±5%) (at 50% full scale)
Measurement noise floor	<20pTrms/√Hz at 1Hz
Scaling	100mV/μT
Offset error	<50nT
Scaling error	±0.5%
Orthogonality error	<0.5°
Roll off (-dB/Octave)	11dB
Frequency response	DC-5kHz (±5%)
Hysteresis	<5nT at 100µT
Excitation breakthrough	<20mV pk-pk at 31.25kHz typical

Environmental	
Operating temperature	-20°C to 70°C
Environmental protection	IP65

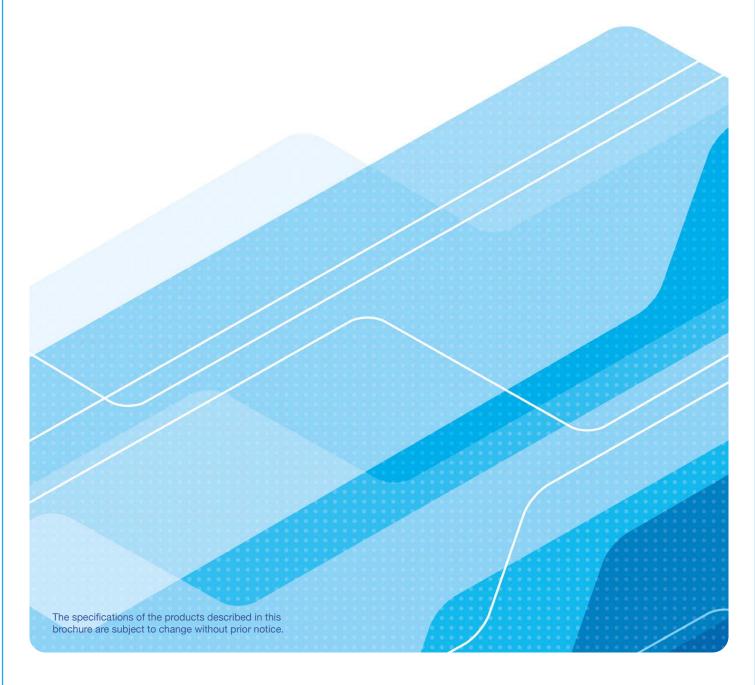
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Mechanical		
Dimensions (Ø x L) excluding cable	25.4 x 218mm	
Integral cable length	2500mm (Ø 6mm)	
Weight	270g	
Enclosure	PPS GF TECATRON GF 40	
Connector	Hirose RM15TRD10S	
Mating connector	Hirose RM15TRD10P with 100mm long flying leads (supplied)	

Electrical	
Supply Voltage	± 15V to ± 17V
Current Consumption	+59mA, -35mA
Analogue output	±10V (unbalanced, single ended ref. 0V)



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