Magnetic field sensor
A-Test LT

Field of application and technical specifications

Production technology
- Detection and tracking of magnetism in the production process
- Detection of magnetized parts at a distance
- Monitoring of magnetization processes for duration, intensity and outcome

Automation and metrology
- Measurement of magnetic noise and stray flux
- Identifying sources of interference in the low frequency range
- Monitoring of demagnetization processes
- Monitoring of mechanical positions and movements

Quality and safety
- Contactless detection of parts interspersed with residual magnetism
- Independent monitoring of magnetic sources
- Passive, non-detectable registration of vehicles and ferromagnetic materials

<table>
<thead>
<tr>
<th>Exterior dimensions</th>
<th>L x B x H = 137 x 63 x 31 mm</th>
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<tbody>
<tr>
<td>Power supply / connection</td>
<td>24VDC / M12 normalized sensor plug with 5 pins</td>
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| Measuring range | Magnetic field DC (far below magnetic field of earth)  
Magnetic field AC (in the entire low frequency range)  
Preferred direction of sensor parallel to the housing length side |
| Adjustable sensitivity via potentiometer (with respect to 6V reference voltage) | Minimum: ~1.155 mT / V; measuring range ~ -5.50...+5.50 mT  
Maximum: ~0.016 mT / V; measuring range ~ -0.08...+0.08 mT  
Maximum resolution ~10 mV (0.16 µT) |
| Analog output | Bipolar output with reference voltage for connection of different detection devices (oscilloscope etc.)  
0...12V at 1kOhm, reference voltage at 6V |
| Output NPN 24VDC (threshold) | Configurable threshold with output type NPN, 24VDC, for connection of detection devices |
| Settings and parameters | 3 potentiometers (sensitivity, threshold, offset) and solder bridge for configuration of 24VDC NPN output |
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Three typical uses for A-Test LT in automated production

1.) Automatic detection of magnetic parts in production
   • Configurable threshold. Output type NPN 24VDC
   • Output of an analog signal for tracing the exact magnetic stray flux (illustrations below)
   • Typical mounting distance to the object around 20...100mm

2.) Automated monitoring of demagnetization processes
   • Accurate process monitoring by evaluating the characteristics of the demagnetization (e.g., by an envelope curve)
   • Typical mounting distance to the object around 50...500mm

3.) Automatic stray field testing of parts after demagnetization
   • Configurable threshold. Output type NPN 24VDC
   • Output of an analog signal for tracing the exact magnetic stray flux (illustrations below)
   • Typical mounting distance to the object around 10...50mm