



## Description

The 5100 Series Hall effect portable gaussmeters represent the most recent design from the world leader in magnetic measuring equipment. This new design incorporates the use of digital signal processing technology making it the world's first hand-held gaussmeter to have a digital signal processor (DSP) on board. F.W. Bell's exclusive Dynamic Probe Correction allows measurements from 0 to 30 kG with a basic accuracy of 1%.

Key features include Auto Zero, Min./Max./Peak Hold, Auto Range and Relative Mode. Both models allow the user to select Gauss, Tesla or Ampere/Meter readings. The 5180 features a corrected analog output ( $\pm 3V$  FS) and a USB communication port.

The 5100 Series Hand-Held Gaussmeter's built-in software eliminates the need for complex calibration procedures. User prompts on the custom formatted LCD allow fast, simple push button operation. All models come equipped with a detachable transverse probe, zero gauss chamber, instruction manual, hard carrying case, and four AA batteries. Axial, ultra thin transverse and low-field probes are available as options.

Applications for the 5100 Series range from the most sensitive laboratory environment to the most rugged industrial setting. All instruments are CE compliant.

## Features

|                        | Model 5170 <input type="checkbox"/> <input type="checkbox"/> | Model 5180 |
|------------------------|--|------------|
| Probe Included         | X  | X          |
| Auto Zero              | X  | X          |
| Min/Max Hold           | X  | X          |
| True RMS               | X  | X          |
| Auto Range             | X  | X          |
| True Peak Hold         |  | X          |
| Relative Mode          |  | X          |
| Outputs (analog)       |  | X          |
| USB Communication Port |  | X          |

# 5100 Series Specifications

| Model                                  | 5170                     | 5180                     |
|--|--------------------------|--------------------------|
| <b>Basic DC Accuracy</b>               | 2%                       | 1.1%                     |
| <b>Frequency Bandwidth</b>             | DC-20 kHz                | DC-30 kHz                |
| <b>Sampling Rate</b>                   |                          |                          |
| Display                                | 4 samples/sec            | 4 samples/sec            |
| Analog Output                          | None                     | 100K samples/sec         |
| <b>Ranges</b>                          |                          |                          |
| Ultra Low Range (low-field probe only) | 1 G                      | 1 G                      |
| Low Range                              | 200 G                    | 300 G                    |
| Mid Range                              | 2 kG                     | 3 kG                     |
| High Range                             | 20 kG                    | 30 kG                    |
| <b>Resolution</b>                      |                          |                          |
| Ultra Low Range (low-field probe only) | 1 mG                     | 1 mG                     |
| Low Range                              | 0.1 G                    | 0.1 G                    |
| Mid Range                              | 1.0 G                    | 1.0 G                    |
| High Range                             | 10 G                     | 10 G                     |
| <b>Display</b>                         | LCD                      | LCD                      |
| <b>Digits</b>                          | 3 1/2                    | 3 1/2                    |
| <b>Readings</b>                        | Gauss, Tesla, Amps/Meter | Gauss, Tesla, Amps/Meter |
| <b>Analog Output</b>                   | None                     | ±3V FS                   |
| <b>Communication Port</b>              | None                     | USB (1 samples/sec)      |

## General Information

### All Models

|                    |                            |
|--------------------|----------------------------|
| <b>Temperature</b> |                            |
| Operating          | 0°C to 50°C                |
| Storage            | -25°C to 70°C              |
| <b>Power</b>       | 4 AA batteries             |
| <b>Size</b>        | 6.9 in x 3.9 in x 1.44 in. |

## Probes and Accessories

| Model Number                                   | Description  |
|--|--|
| <b>Model 5180 Probes</b>                       |  |
| HTD18-0604                                     | 4" Transverse Probe  |
| STD18-0404                                     | 4" Transverse Probe (incl. w/5180)   |
| STD18-0402                                     | 2" Transverse Probe  |
| SAD18-1904                                     | 4" Axial Probe   |
| SAD18-1902                                     | 2" Axial Probe   |
| <b>Model 5170 Probes</b>                       |  |
| HTH17-0604                                     | 4" Transverse Probe  |
| STH17-0404                                     | 4" Transverse Probe (incl. w/5170)   |
| STH17-0402                                     | 2" Transverse Probe  |
| SAH17-1904                                     | 4" Axial Probe   |
| SAH17-1902                                     | 2" Axial Probe   |
| <b>Models 5170/5180 Gaussmeter Probes</b>      |  |
| STB1X-0201                                     | Ultra Thin Transverse Probe (0.020" thick)                                 |
| MOS51-3204                                     | Low Field Probe  |
| <b>Models 5170/5180 Gaussmeter Accessories</b> |  |
| YA-111   | Zero Gauss Chamber (for axial, transverse and low-field probes)            |
| PSRD-5   | AC Adapter, +5VDC Regulated Output, 110VAC Input, Domestic                 |
| PSRI-5   | AC Adapter, +5VDC Regulated Output, 220VAC Input, Switching, International |

### Shipping Weight

Domestic 3.5 lbs 1.59 kgs  
International 4 lbs 1.82 kgs

**Note:** Due to continuous process improvement, specifications are subject to change without notice.

Hall Effect Gaussmeters

