

# Model 7030 GAUSS/TESLA METER



## Description

The Model 7030 three-channel GAUSS/TESLA METER from **F.W. Bell** leads the way for Advanced Hall Effect Magnetic measuring technology. The easy-to-use front panel programming feature incorporates the latest in user control operations. The 7030 is capable of simultaneously measuring and displaying *seven different parameters per channel* -- flux density, frequency, temperature, min, max, peak and valley. With the 7030's vector summation feature, that makes a total of **27** different parameters.

This high accuracy instrument is fully equipped to meet most magnetic measuring applications. Bell's exclusive dynamic probe correcting software increases the 7030 measurement capabilities to make it *the most versatile magnetic measuring tool in the world*.

Key features include high-resolution, high-accuracy and high-speed with a large graphic electroluminescent display. The 7030 features 50 kHz frequency response, temperature and frequency measurements, Auto Zero, Auto Range, Hold functions for Peak, Valley, Min and Max, corrected and uncorrected outputs for each channel and Vector Summation and angle. The Model 7030 provides the user with gauss, tesla, Oe, A/m, IEEE-488 and RS-232 communications ports and Classifier output.

The 7030 operates with Bell's fifth generation Hall Effect probes. These probes provide temperature compensation and measurement readings (-40°C to +100°C) while monitoring the magnetic field. The easy-to-read 1/4 VGA display is easily viewable in most light conditions and can be customized to meet a user's specific needs. Applications range from basic magnetic measuring to sensitive complicated three-axis vector summing requirements. All instruments are fully CE compliant.

## Features

- Bright 1/4-VGA Readout
- Large electroluminescent graphic display
- Over 100 standard probes available
- Automatic probe coefficient correction
- Displays in Gauss, Tesla, Amp/meter or Oe
- Peak/Valley Capture
- Relative Mode
- Fully menu-driven for easy operation
- Auto Zero and Auto Calibration
- IEEE-488 and RS-232 interface
- CE Compliant
- Manufactured to ISO 9000 standards
- Comprehensive Technical Support



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Hall Effect GAUSSMETERS

# Model 7030 Specifications

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## SPECIFICATION

|               |                     |              |   |
|---------------|---------------------|--------------|---|
| <b>Ranges</b> | 300mG (30 $\mu$ T)* | 3kG/(300mT)  | * Low field probe<br>† High field probe |
|               | 3G (300 $\mu$ T)*   | 30kG (3T)    |   |
|               | 30G (3mT)           | 300kG/(30T)† |   |
|               | 300G (30mT)         |              |   |
|               |                     |              |   |

|                   |                                  |
|-------------------|----------------------------------|
| <b>Resolution</b> | 1 $\mu$ G (0.1nT) to 100G (10mT) |
|-------------------|----------------------------------|

|                                     |                     |
|-------------------------------------|---------------------|
| <b>Accuracy (Displayed Reading)</b> |                     |
| dc basic                            | 0.05% of reading    |
| ac basic                            | $\pm$ 2% of reading |

|                        |               |
|------------------------|---------------|
| <b>Frequency Range</b> |               |
| dc mode                | dc to 250Hz   |
| ac mode                | 10Hz to 50kHz |

|   |                      |
|---|----------------------|
| <b>Accuracy (Corrected Analog Output)</b> |                      |
| dc basic                                  | $\pm$ 0.25% of range |
| ac basic                                  | $\pm$ 2% of range    |
| Frequency Range                           | dc to 250Hz          |

|  |               |
|--|---------------|
| <b>Frequency Range (Uncorrected Analog Output)</b> |               |
| dc mode  | dc to 400Hz   |
| ac mode  | 10Hz to 50kHz |

|                      |   |
|----------------------|---|
| <b>Analog Output</b> |   |
| Output Voltage       | $\pm$ 3V F.S. or $\pm$ 10V F.S. or adjustable from 0.1 - 9.9V |
| Source Impedance     | <100 ohms   |
| Connector            | Standard BNC  |

|                              |  |
|------------------------------|--|
| <b>Additional Influences</b> |  |
| Temperature Coefficient      | $\pm$ (0.02% of reading $\pm$ 1 count)/ $^{\circ}$ C |

|                          |                                      |
|--------------------------|--------------------------------------|
| <b>Temperature Range</b> |                                      |
| Operating                | 0 $^{\circ}$ C to +50 $^{\circ}$ C   |
| Storage                  | -20 $^{\circ}$ C to +60 $^{\circ}$ C |

|                            |   |
|----------------------------|---|
| <b>Front Panel Display</b> | 1/4 VGA, 320 x 240 pixels<br>Electroluminescent graphic display with 4 shades of amber<br>4.7" (119 mm) W x 3.5" (89mm) H |
|----------------------------|---|

|                            |  |
|----------------------------|--|
| <b>Communication Ports</b> |  |
| RS-232                     | Standard 9-pin "D" connector                             |
| Baud Rate                  | 110,150,300,600,1200,2400,4800,9600,19200,38400 bits/sec |
| IEEE-488                   | Standard 24-pin GPIB connector                           |
| Protocol                   | IEEE-1987.2 and SCPI-1999                                |

|              |            |                            |
|--------------|------------|----------------------------|
| <b>Power</b> | Volts:     | 100/120 or 200/240         |
|              | Frequency: | 50-60 Hz or 50-60 Hz       |
|              | Current:   | 1.0 A (max) or 0.5 A (max) |

|             |                |
|-------------|----------------|
| <b>Size</b> |                |
| Width       | 16.3" (414 mm) |
| Height      | 5.2" (132mm)   |
| Depth       | 13.5" (343mm)  |

|               |                     |
|---------------|---------------------|
| <b>Weight</b> |                     |
| Net           | 19.6 lbs. (8.9 kg)  |
| Shipping      | 25.8 lbs. (11.6 kg) |



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