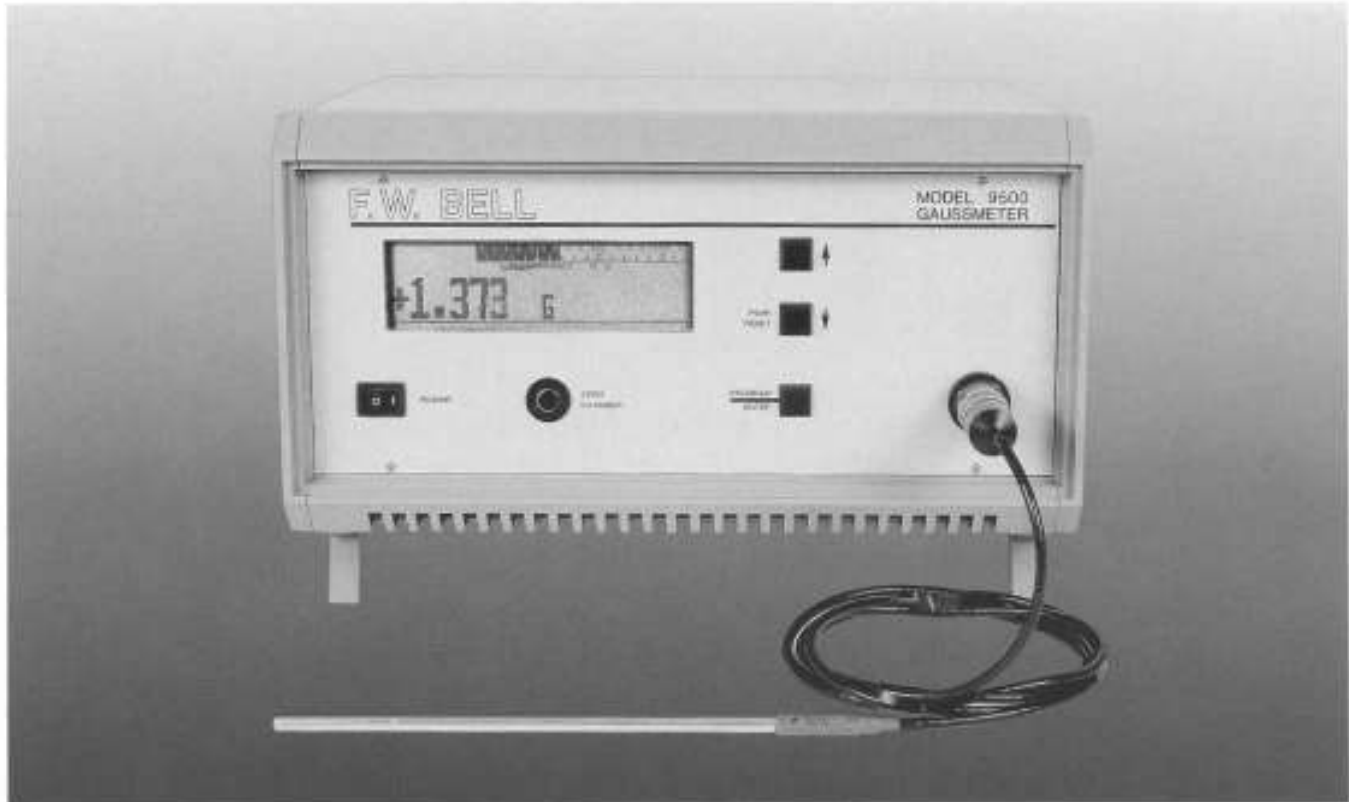


# MODEL 9500 MENU-DRIVEN GAUSSMETER



## General Description

The Model 9500 Gaussmeter utilizes the latest in F.W. Bell-developed technology.

The 9500 is micro-processor based and is fully menu-driven. Time-proven F.W. Bell technology has been updated with state-of-the-art high-speed circuitry and software for optimum performance and accurate, high-resolution measurements.

A four-and-three-quarter-digit display with bargraph, displays in milligauss, gauss, kilogauss, microtesla, millitesla or tesla, depending on the range selection and the type of probe used.

The Model 9500 comes standard with RS-232 and IEEE-488 ports.

## Display



Typical 9500 display 4<sup>3</sup>/<sub>4</sub>-digit with Bargraph • Peak-Hold • Back-lighted • Autorange

## Features

Fully Menu-driven  
Displays in Gauss or Tesla  
Frequency: dc to 10 kHz  
Basic Instrument Accuracy:  $\pm 0.1\%$   
4<sup>3</sup>/<sub>4</sub>-digit Back-lighted LCD Display  
Eight Ranges from 30 mG (3  $\mu$ T)  
to 300 kG (30 T)  
Update rate up to 8 per second  
dependent upon set-up

Resolution of 10  $\mu$ G (.001  $\mu$ T)  
to 100 G (10 mT)  
Analog Bargraph Display  
Autorange  
Peak Hold  
Self-diagnosis  
IEEE-488 and RS-232 outputs

3-Volt, Full Scale Output  
Auto Calibration  
Built-in Zero Gauss Chamber  
Auto Zero  
Rack Mount, Optional

See Pages 13-22 for Probe Specifications. See Page 10 for Gaussmeter Specifications.

# SPECIFICATION CHARTS

## Series 9900 Specifications

### RANGES

30 mG* (3 $\mu$ T)*	3 kG (300 mT)
300 mG* (30 $\mu$ T)*	30 kG (3 T)
3 G** (300 $\mu$ T)**	300 kG (30 T)
30 G (3 mT)	3 MG*** (300 T)***
300 G (30 mT)	

\*0.01X Probe only  
 \*\*0.01X and 1X Probe only  
 \*\*\*10X Probe only

### RESOLUTION

10  $\mu$ G (0.001  $\mu$ T) to 100 G (10 mT)

### ACCURACY

dc: Ranges	$\pm\%$ of Reading	$\pm$ Number of Counts
30 mG—30 G	.05	14
300 G—3 MG	.05	6

### ac:

Frequency Filter Off	Ranges	
	30 mG—30 G ( $\pm 1\%$ of Reading, $\pm 500$ Counts)	300 G—3 MG ( $\pm 1\%$ of Reading, $\pm 75$ Counts)
20 Hz—49 Hz	3.6	3.6
50 Hz—99 Hz	1.7	1.7
100 Hz—499 Hz	1.0	1.0
500 Hz—9.9 kHz	0.5	0.5
10 kHz—24 kHz	0.7	0.7
25 kHz—39 kHz	1.5	1.5
40 kHz—50 kHz	2.2	2.2

For sinewave input >10% of Full Scale

### NOTE:

dc and ac accuracies are for the corrected, displayed reading and the digital information sent out on the RS-232 or the IEEE-488 bus.

### ANALOG OUTPUT

Output Voltage .....  $\pm 3.0$  V FS  
 Source Impedance ..... < 100 ohms  
 Termination ..... Standard BNC Connector

### ANALOG OUTPUT ACCURACY

dc: Ranges	$\pm\%$ of Reading	$\pm\%$ of Full Scale
30 mG—3 G	0.25	4.0
30 G	0.25	0.3
300 G—3 MG	0.25	0.1

For output >10% of Full Scale

### ac:

Frequency Filter Off	Ranges	
	30 mG—30 G ( $\pm 1\%$ of Reading, $\pm 2\%$ of FS)	300 G—3 MG ( $\pm 1\%$ of Reading, $\pm 0.35\%$ of FS)
20 Hz—49 Hz	36	36
50 Hz—99 Hz	17	17
100 Hz—499 Hz	10	10
500 Hz—9.9 kHz	5	5
10 kHz—24 kHz	7	7
25 kHz—39 kHz	15	15
40 kHz—50 kHz	22	22

Sinewave input, >10% of Full Scale

### FREQUENCY RANGE (Analog Output)

dc mode ..... dc—400 Hz  
 ac mode "filter on" ..... 20 Hz—1 kHz  
 ac mode "filter off" ..... 20 Hz—50 kHz

### NOTE:

Accuracy specified for 23°C  $\pm 5^\circ$ C.  
 Recommended calibration recertification cycle is one year.

### FREQUENCY RANGE (Displayed Reading)

dc Mode ..... dc  
 ac mode "filter on" ..... 20 Hz—1 kHz  
 ac mode "filter off" ..... 20 Hz—50 kHz

### TEMPERATURE RANGE

Operating ..... 0°C to +50°C  
 Storage ..... -20°C to +70°C

### FRONT PANEL DISPLAY

Type (4 $\frac{1}{2}$ -digit) 240 x 64 dot matrix LCD with a backlight. Viewing Area 5.2" (13.2 cm) W, 1.6" (4.1 cm) H.

### FRONT PANEL ZERO GAUSS

#### CHAMBER

Cavity Size .344" (.9 cm) I.D., 2.0" (5.1 cm) D  
 Attenuation ..... 80 dB in a 300 G field

### COMMUNICATIONS PORTS

RS-232 ..... Standard 25-pin "D" connector  
 IEEE-488 ..... Standard 24-pin GPIB connector

### POWER

Volts ..... 90-125 Vac or 180-250 Vac  
 Frequency ..... 50-60 Hz 50-60 Hz  
 Current ..... 2.0 A 1.0 A

### SIZE

17.67" (44.9 cm) W, 7.53" (19.1 cm) H  
 (including feet), 16.18" (41.1 cm) D

### WEIGHT (Maximum)

Net ..... 35.9 lb (16.3 kg)  
 Shipping ..... 43.4 lb (19.7 kg)

## Series 9500 Specifications

### RANGES

30 mG* (3 $\mu$ T)*	300 G (30 mT)
300 mG* (30 $\mu$ T)*	3 kG (300 mT)
3 G** (300 $\mu$ T)**	30 kG (3 T)
30 G (3 mT)	300 kG*** (30 T)***

\*0.01X Probe only  
 \*\*0.01X and 1X Probe only  
 \*\*\*10X Probe only

### RESOLUTION

10  $\mu$ G (0.001  $\mu$ T) to 100 G (10 mT)

### ACCURACY

dc: Ranges	$\pm\%$ of Reading	$\pm$ Number of Counts
30 mG—30 G	.075	14
300 G—300 kG	.075	6

### ac:

Frequency Filter Off	Ranges	
	30 mG—30 G ( $\pm 1\%$ of Reading, $\pm 500$ Counts)	300 G—300 kG ( $\pm 1\%$ of Reading, $\pm 75$ Counts)
20 Hz—49 Hz	4.0	4.0
50 Hz—99 Hz	2.0	2.0
100 Hz—10 kHz	1.0	1.0

Sinewave input >10% of Full Scale

### NOTE:

dc and ac accuracies are for the corrected, displayed reading and the digital information sent out on the RS-232 or the IEEE-488 bus.

### ANALOG OUTPUT

Output Voltage .....  $\pm 3.0$  V FS  
 Source Impedance ..... < 100 ohms  
 Termination ..... Standard BNC Connector

### ANALOG OUTPUT ACCURACY

dc: Ranges	$\pm\%$ of Reading	$\pm\%$ of Full Scale
30 mG—3 G	.35	4.0
30 G	.35	0.3
300 G—300 kG	.35	0.1

For output >10% of Full Scale

### ac:

Frequency Filter Off	Ranges	
	30 mG—30 G ( $\pm 1\%$ of Reading, $\pm 2\%$ of FS)	300 G—300 kG ( $\pm 1\%$ of Reading, $\pm 0.35\%$ of FS)
20 Hz—49 Hz	40	40
50 Hz—99 Hz	20	20
100 Hz—499 Hz	10	10
500 Hz—10 kHz	5	5

Sinewave input >10% of Full Scale

### FREQUENCY RANGE (Analog Output)

dc Mode ..... dc—400 Hz  
 ac mode "filter on" ..... 20 Hz—1 kHz  
 ac mode "filter off" ..... 20 Hz—10 kHz

### NOTE:

Accuracy specified for 23°C  $\pm 5^\circ$ C.  
 Recommended calibration recertification cycle is one year.

### FREQUENCY RANGE (Displayed Reading)

dc Mode ..... dc  
 ac mode "filter on" ..... 20 Hz—1 kHz  
 ac mode "filter off" ..... 20 Hz—10 kHz

### TEMPERATURE RANGE

Operating ..... 0°C to +50°C  
 Storage ..... -20°C to +70°C

### FRONT PANEL DISPLAY

Type (4 $\frac{1}{2}$ -digit) 240 x 64 dot matrix LCD with a backlight. Viewing Area 5.2" (13.2 cm) W, 1.6" (4.1 cm) H.

### FRONT PANEL ZERO GAUSS

#### CHAMBER

Cavity Size 0.344" (.9 cm) I.D., 2.0" (5.1 cm) D  
 Attenuation ..... 80 dB in a 300 G field

### COMMUNICATIONS PORTS

RS-232 ..... Standard 25-pin "D" connector  
 IEEE-488 ..... Standard 24-pin GPIB connector

### POWER

Volts ..... 90-125 Vac or 180-250 Vac  
 Frequency ..... 50-60 Hz 50-60 Hz  
 Current ..... 1.0 A 0.5 A

### SIZE

13.47" (34.2 cm) W, 7.53" (19.1 cm) H  
 (including feet), 14.12" (36.1 cm) D

### WEIGHT (Maximum)

Net ..... 18.5 lb. (8.4 kg)  
 Shipping ..... 26.0 lb. (11.8 kg)

**Note: Specifications subject to change without notice.**