



Hall Effect Gaussmeters

## 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%.

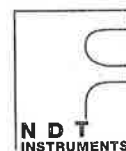
Key features include Auto Zero, Min./Max./Peak Hold, Auto Range and Relative Mode. Both models allow the user to select Gauss, Tesla or Ampere/Meter readings. The 5180 features a corrected analog output ( $\pm 3V$  FS) and a USB communication port.

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	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



**NDT Instruments Pte Ltd**  
 50 Ubi Avenue 3, #05-20  
 Frontier, Singapore 408866  
 Tel: (65) 6571 0668 Fax: (65) 6571 0669  
 E-mail : central@ndt-instruments.com  
 Website : www.ndt-instruments.com

Model	5170	5180
<b>Basic DC Accuracy</b>	2%	1.1%
<b>Frequency Bandwidth</b>	DC-20 kHz	DC-25 kHz
<b>Update Rates</b>		
Display	4 readings/sec	4 readings/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 2/3
<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

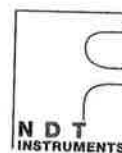
### Models 5170/5180 Gaussmeter Accessories

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

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

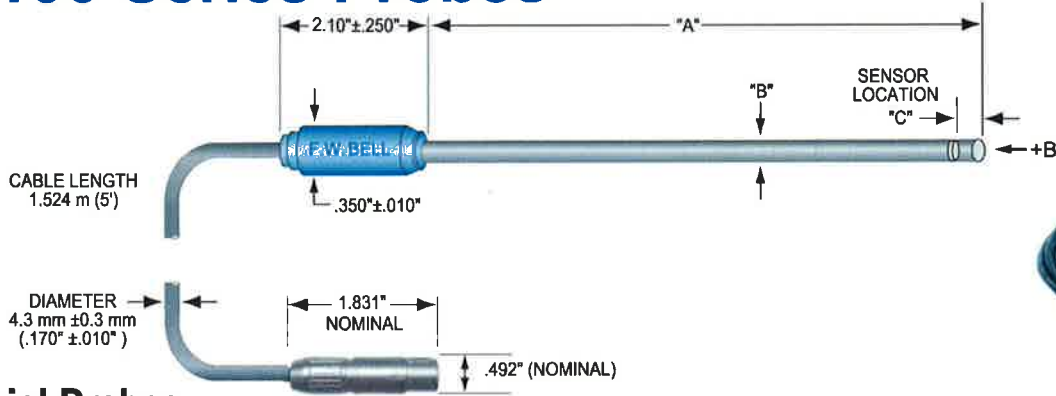
### Shipping Weight

Domestic 3.5 lbs 1.59 kgs  
International 4 lbs 1.82 kgs



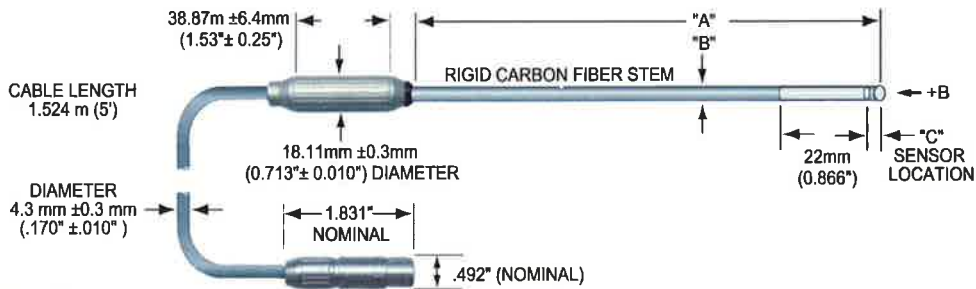
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Frontier, Singapore 408866  
Tel: (65) 6571 0668 Fax: (65) 6571 0669  
E-mail : central@ndt-instruments.com  
Website: www.ndt-instruments.com

# 5100 Series Probes



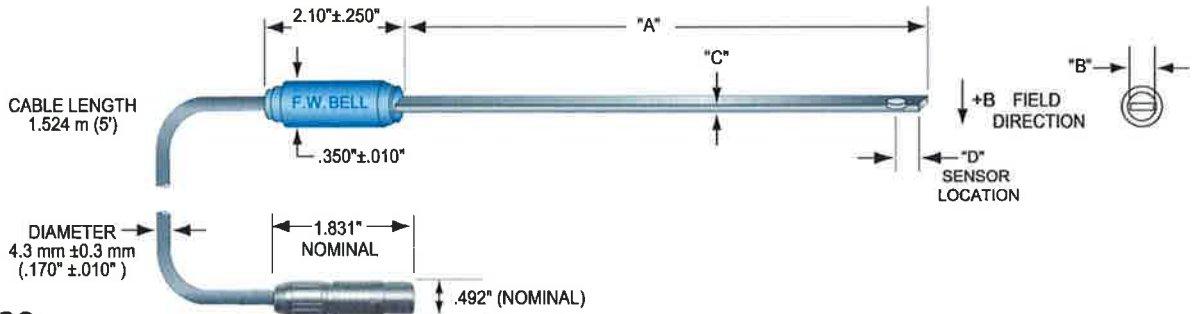
## Axial Probes

Model	A ±.063"	B	C	Stem Material	Corrected Linearity	Sensitivity	Active area	Operating temp. range	Temp. stability (typical)		Frequency Response
									Zero	Calibrate	
SAD18-1902	2"	0.187" ±.003"	0.010" (NOMINAL)	RIGID PHENOLIC	0.5%/30kG	1X	0.015" DIA. (NOM)	0°C to +75°C	±0.300 Gauss / °C	-0.05% % / °C	DC to 20kHz
SAD18-1904	4"										
SAH17-1902	2"				DC to 10kHz						
SAH17-1904	4"										



## Low Field Axial Probes

Model	A ±.063"	B	C	Stem Material	Corrected Linearity	Sensitivity	Active area	Operating temp. range	Temp. stability (typical)		Frequency Response
									Zero	Calibrate	
MOS51-3204	4"	0.285" ±0.006"	0.050" (NOMINAL)	RIGID PHENOLIC	0.75%/1G	1X	0.866" (NOM)	0°C to +75°C	±0.02 mG/°C	-0.001 % / °C	DC to 700Hz (-3dB)



## Transverse Probes

Model	A ±.063"	B	C	D	Material	Corrected Linearity	Sensitivity	Active area	Operating temp. range	Temp. stability (typical)		Frequency Response
										Zero	Calibrate	
STD18-0402	2"	0.158" ±.004"	0.045" ±.004"	0.0335" (NOMINAL)	Polypropylene	0.5%/30kG	1X	0.015" DIA. (NOM)	0°C to +75°C	±0.300 Gauss / °C (typical)	-0.05% % / °C (typical)	DC to 20kHz
STD18-0404	4"											
STH17-0402	2"				DC to 10kHz							
STH17-0404	4"											
HTH17-0604	4"	0.180" ±.004"	0.060" +.000" -.004"	ALUMINUM 3003 3/4 FH	1.0%/20kG	0.5%/30kG	DC to 10kHz					
HTD18-0604	4"				0.5%/30kG			DC to 20kHz				
STB1X-0201	1"	.050" ±.005"	.020" MAX	0.030" (NOMINAL)	KAPTON	1.0%/10kG	0.025" DIA (NOM.)	0°C to +75°C	±0.200 Gauss / °C	-0.1 % / °C	DC only	

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\*\* Prior to late 2006 Transverse Probe Stems were rigid glass epoxy, .150 x .040".