LTR	ECO	DESCRIPTION OF CHANGES	RELEASE DATE	BY
A	13692		11–20–2006	FM
B	13867	pg 3, Chg DC Freq resonse to 25kHz	04–10–08	LFH
C	30230	polypropylene to fiberglass stem	08–15–14	LNP

SPECIFICATIONS: TRANSVERSE PROBES

1.0 GENERAL DESCRIPTION

5100 SERIES TRANSVERSE PROBES ARE PRECISION, SOLID STATE MAGNETIC FIELD SENSORS DESIGNED FOR USE WITH F.W. BELL 5100 SERIES GAUSSMETERS TO PROVIDE STABLE AND REPEATABLE TRANSVERSE MAGNETIC FLUX DENSITY MEASUREMENTS.

THESE UNITS FEATURE RUGGEDIZED CONSTRUCTION SUITABLE FOR MANUAL OR FIXTURED APPLICATIONS.

2.0 ELECTRICAL AND PHYSICAL SPECIFICATIONS

2.1 FOR SPECIFICATION DETAILS REFER TO TABLE 1 ON PAGE 3.

2.2 ELECTRICAL SCHEMATIC : REF (1)

2.4 OPERATING TEMPERATURE RANGE : 0°C TO +75°C (+32°F TO +167°F)

2.5 STORAGE TEMPERATURE RANGE : −25°C TO +75°C (−13°F TO +167°F)

3.0 CALIBRATION

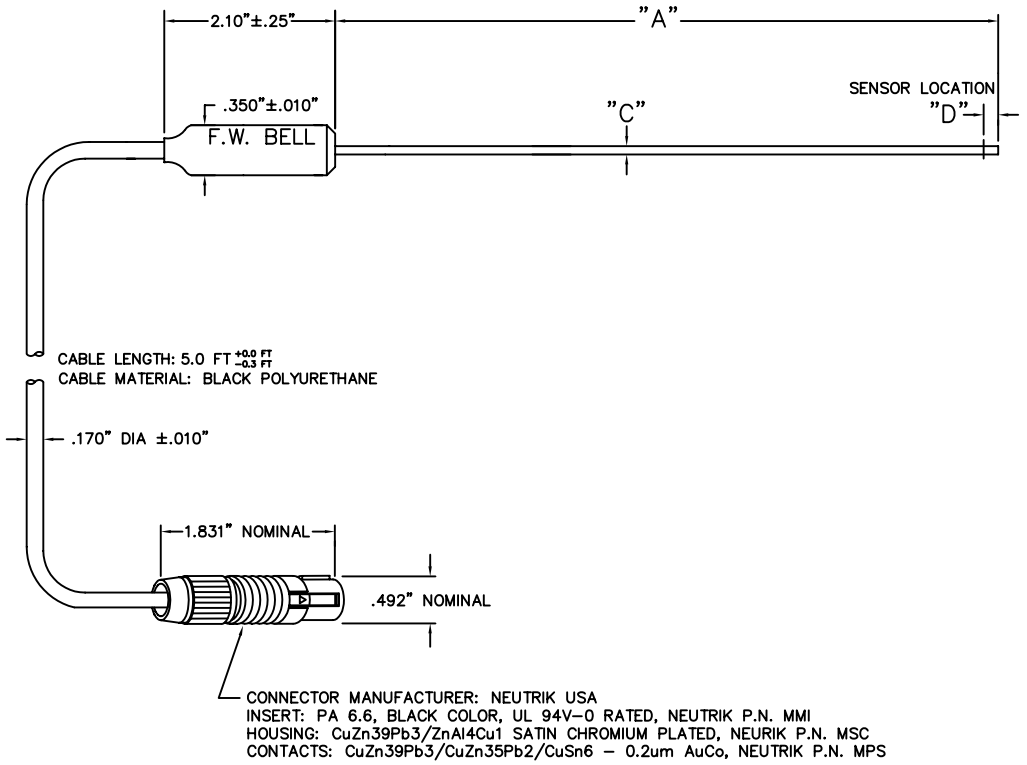
3.1 CALIBRATION IS REFERENCED TO A LABORATORY STANDARD MAGNET. THIS STANDARD IS MEASURED BY THE NUCLEAR MAGNETIC RESONANCE (NMR) TECHNIQUE, WHICH IS BASED ON ACCEPTED VALUES OF NATURAL PHYSICAL CONSTANTS

3.2 PROBES ARE CALIBRATED TO INDICATED ACCURACY OVER THE SPECIFIED RANGES WHEN USED WITH THE APPROPRIATE F.W. BELL GAUSSMETER.

3.3 GAUSSMETER ERRORS MUST BE ADDED TO PROBE LINEARITY ERRORS TO OBTAIN OVERALL MEASURING ACCURACY.

4.0 SPECIAL PROBES

4.1 ELECTRICAL AND/OR PHYSICAL REQUIREMENTS NOT COVERED BY STANDARD PROBES MAY BE FURNISHED AS SPECIAL PROBES.



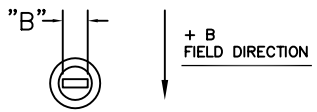


FIGURE 1. TRANSVERSE PROBES (REF. (2) THRU (7))

REF	QTY	DWG / ITEM NO.	DESCRIPTION
11	REF	121702	AXIAL PROBE, MODEL SAH17–1904
10	REF	121701	AXIAL PROBE, MODEL SAH17–1902
9	REF	121802	AXIAL PROBE, MODEL SAD18–1904
8	REF	121801	AXIAL PROBE, MODEL SAD18–1902
7	REF	121805	TRANSVERSE PROBE, MODEL HTD18–0604
6	REF	121705	TRANSVERSE PROBE, MODEL HTH17–0604
5	REF	121704	TRANSVERSE PROBE, MODEL STH17–0404
4	REF	121703	TRANSVERSE PROBE, MODEL STH17–0402
3	REF	121804	TRANSVERSE PROBE, MODEL STD18–0404
2	REF	121803	TRANSVERSE PROBE, MODEL STD18–0402
1	REF	UB–6153	SCHEMATIC, 5100 SERIES GAUSSMETER PROBES

UNLESS OTHERWISE SPECIFIED: DIMENSIONS IN INCHES (DO NOT SCALE TO DWG)	MATL & FINISH: AS NOTED
SCALE NONE	DRN 10–12–04 JTM
DEC± AS NOTED	APPD 11–04–04 GG
FRAC± ——	QA APPD 11–04–04 RMB
ANG± ——	REL 11–04–04 GMR

F.W. BELL

TITLE: SPECIFICATIONS, 5100 SERIES GAUSSMETER PROBES

SHT 1 OF 3 | DWG NO. UA–6152 | REV C

SPECIFICATIONS: AXIAL PROBES

1.0 GENERAL DESCRIPTION

5100 SERIES AXIAL PROBES ARE PRECISION, SOLID STATE MAGNETIC FIELD SENSORS DESIGNED FOR USE WITH F.W. BELL 5100 SERIES GAUSSMETERS TO PROVIDE STABLE AND REPEATABLE AXIAL MAGNETIC FLUX DENSITY MEASUREMENTS.

THESE UNITS FEATURE RUGGEDIZED CONSTRUCTION SUITABLE FOR MANUAL OR FIXTURED APPLICATIONS.

2.0 ELECTRICAL AND PHYSICAL SPECIFICATIONS

2.1 FOR SPECIFICATION DETAILS REFER TO TABLE 2 ON PAGE 3.

2.2 ELECTRICAL SCHEMATIC : REF (1)

2.4 OPERATING TEMPERATURE RANGE : 0°C TO +75°C (+32°F TO +167°F)

2.5 STORAGE TEMPERATURE RANGE : −25°C TO +75°C (−13°F TO +167°F)

3.0 CALIBRATION

3.1 CALIBRATION IS REFERENCED TO A LABORATORY STANDARD MAGNET. THIS STANDARD IS MEASURED BY THE NUCLEAR MAGNETIC RESONANCE (NMR) TECHNIQUE, WHICH IS BASED ON ACCEPTED VALUES OF NATURAL PHYSICAL CONSTANTS.

3.2 PROBES ARE CALIBRATED TO INDICATED ACCURACY OVER THE SPECIFIED RANGES WHEN USED WITH THE APPROPRIATE F.W. BELL GAUSSMETER.

3.3 GAUSSMETER ERRORS MUST BE ADDED TO PROBE LINEARITY ERRORS TO OBTAIN OVERALL MEASURING ACCURACY.

4.0 SPECIAL PROBES

4.1 ELECTRICAL AND/OR PHYSICAL REQUIREMENTS NOT COVERED BY STANDARD PROBES MAY BE FURNISHED AS SPECIAL PROBES.

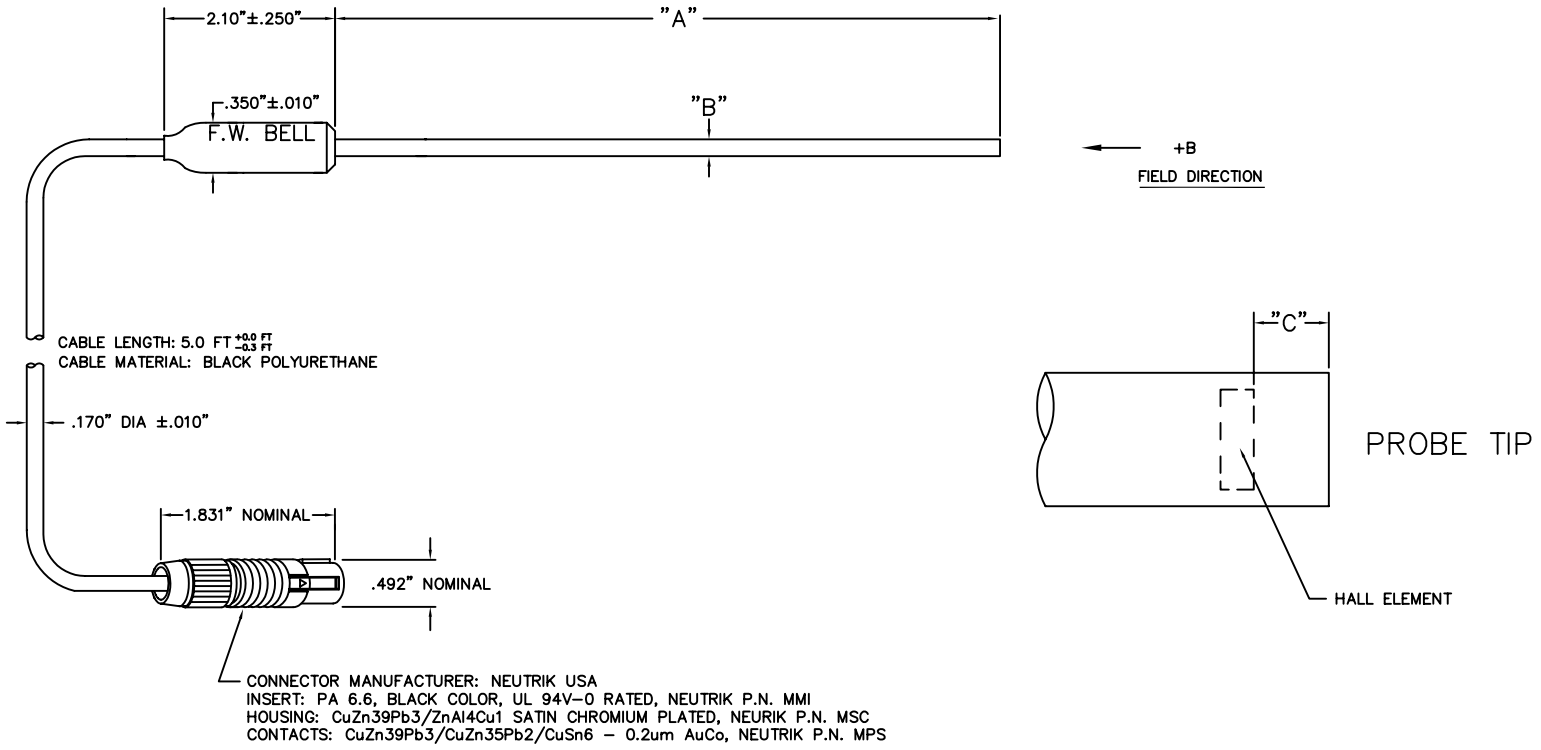


FIGURE 2. AXIAL PROBES (REF. (8) THRU (11))

TABLE 1. SPECIFICATIONS FOR TRANSVERSE PROBES

REF	MODEL NO.	"A" ±.063"	"B"	"C"	"D"	STEM MATERIAL	CORRECTED LINEARITY	SENS	ACTIVE AREA	OP. TEMP RANGE	TEMP. STABILITY		HALL DEVICE TYPE	FREQ.UENCY RESPONSE
											ZERO	CAL		
2	STD18–0402	2"	0.158" ±.004"	0.046" +0.000 −0.004	0.040" (NOMINAL)	Fiberglass ** see note	0.5%/30KG	1X	0.015" DIA. (NOMINAL)	0°C TO +75°C	±0.300 GAUSS PER °C (TYPICAL)	−0.05% PER °C (TYPICAL)	JB–1163	DC TO 20 KHz
3	STD18–0404	4"												
4	STH17–0402	2"					1.0%/20KG							DC TO 10 KHz
5	STH17–0404	4"												
6	HTH17–0604	4"	0.180" ±.004"	0.060" +.000" −.004"		ALUMINUM 3003 3/4 FH	1.0%/20KG							DC TO 10 KHz
7	HTD18–0604	4"					0.5%/30KG							DC TO 20 KHz

** Prior to late 2006 these transverse probe stems were rigid glass epoxy, .150 x .040".
Between 2006 and mid 2014 these transverse probe stems were .158 x .045" polypropylene.

TABLE 2. SPECIFICATIONS FOR AXIAL PROBES

REF	MODEL NO.	"A" ±.063"	"B"	"C"	STEM MATERIAL	CORRECTED LINEARITY	SENS	ACTIVE AREA	OP. TEMP RANGE	TEMP. STABILITY		HALL DEVICE TYPE	FREQ.UENCY RESPONSE
										ZERO	CAL		
8	SAD18–1902	2"	0.187" ±.006"	0.010" (NOMINAL)	RIGID PHENOLIC	0.5%/30KG	1X	0.015" DIA. (NOMINAL)	0°C TO +75°C	±0.300 GAUSS PER °C (TYPICAL)	−0.05% PER °C (TYPICAL)	JB–1163	DC TO 25 KHz
9	SAD18–1904	4"											
10	SAH17–1902	2"				1.0%/20KG							DC TO 10 KHz
11	SAH17–1904	4"											