

SPECIFICATIONS: TRANSVERSE PROBES

1.0 GENERAL DESCRIPTION

6000 SERIES TRANSVERSE PROBES ARE PRECISION, SOLID STATE MAGNETIC FIELD SENSORS DESIGNED FOR USE WITH F.W. BELL 6000 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
- 2.3 OPERATING TEMPERATURE RANGE : 0°C TO +75°C (+32°F TO +167°F)
- 2.4 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.

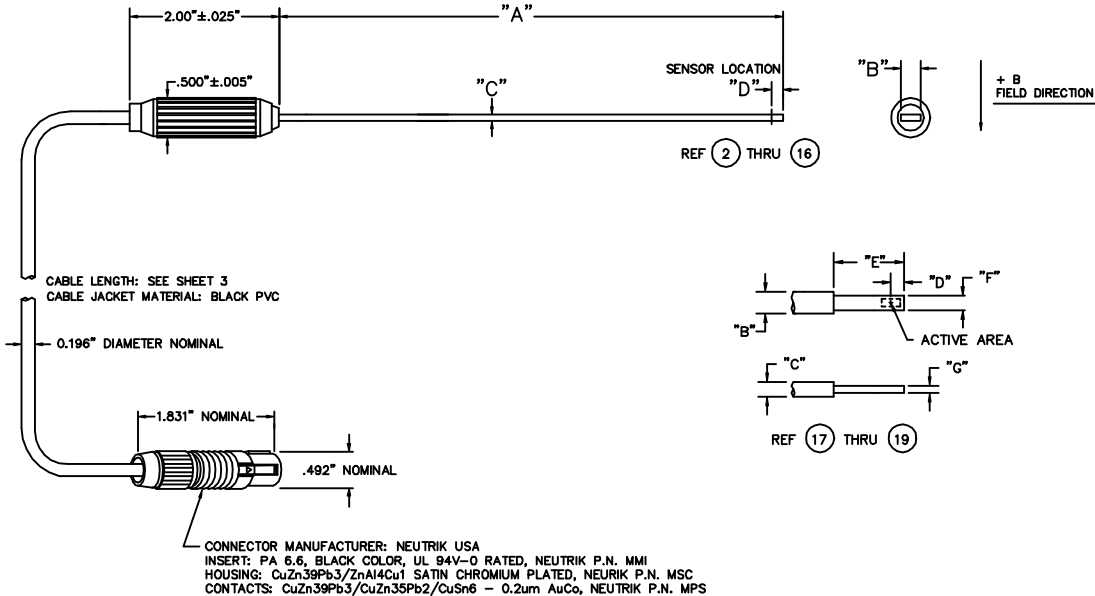


FIGURE 1. TRANSVERSE PROBES (REF. ② THRU ⑱)

40			
39			
38			
37			
36			
35			
34			
33	REF	126878	AXIAL PROBE, MODEL SAR61-1802-30
32	REF	126877	AXIAL PROBE, MODEL SAR61-1802-15
31	REF	126876	AXIAL PROBE, MODEL SAR61-1802-05
30	REF	126875	AXIAL PROBE, MODEL HAD61-2508-30
29	REF	126874	AXIAL PROBE, MODEL HAD61-2508-15
28	REF	126873	AXIAL PROBE, MODEL HAD61-2508-05
27	REF	126872	AXIAL PROBE, MODEL HAD61-2508-30-T
26	REF	126871	AXIAL PROBE, MODEL HAD61-2508-15-T
25	REF	126870	AXIAL PROBE, MODEL HAD61-2508-05-T
24			
23			
22			
21			
20			
19	REF	126868	TRANSVERSE PROBE, MODEL STD61-0204-30
18	REF	126867	TRANSVERSE PROBE, MODEL STD61-0204-15
17	REF	126866	TRANSVERSE PROBE, MODEL STD61-0204-05
16	REF	126865	TRANSVERSE PROBE, MODEL STD61-0402-30
15	REF	126864	TRANSVERSE PROBE, MODEL STD61-0402-15
14	REF	126863	TRANSVERSE PROBE, MODEL STD61-0402-05
13	REF	126862	TRANSVERSE PROBE, MODEL STD61-0404-30
12	REF	126861	TRANSVERSE PROBE, MODEL STD61-0404-15
11	REF	126860	TRANSVERSE PROBE, MODEL STD61-0404-05
10	REF	126858	TRANSVERSE PROBE, MODEL HTR61-0608-30
9	REF	126857	TRANSVERSE PROBE, MODEL HTR61-0608-15
8	REF	126856	TRANSVERSE PROBE, MODEL HTR61-0608-05
7	REF	126855	TRANSVERSE PROBE, MODEL HTD61-0608-30
6	REF	126854	TRANSVERSE PROBE, MODEL HTD61-0608-15
5	REF	126853	TRANSVERSE PROBE, MODEL HTD61-0608-05
4	REF	126852	TRANSVERSE PROBE, MODEL HTD61-0608-30-T
3	REF	126851	TRANSVERSE PROBE, MODEL HTD61-0608-15-T
2	REF	126850	TRANSVERSE PROBE, MODEL HTD61-0608-05-T
1	REF		
REF QTY DWG / ITEM NO. DESCRIPTION			
UNLESS OTHERWISE SPECIFIED:		MATL & FINISH	TITLE SPECIFICATIONS, 6000 SERIES GAUSSMETER PROBES
DIMENSIONS IN INCHES (DO NOT SCALE TO DWG)		AS NOTED	
SCALE	NONE	DRN 09-18-98 JTM	
DEC: AS NOTED		APPD 10-02-98 MS	
FRAC: —		GA APPD 10-02-98 RMB	
ANG: —		REL 10-02-98 JTM	
REV. STATUS OF SHEETS	REV.	— — — — — — — — — —	SHT 1 OF 3
	SHEET	1 2 3 4 5 6 7 8 9 10	DWG NO. UC-5849
			REV —

SPECIFICATIONS: AXIAL PROBES

1.0 GENERAL DESCRIPTION

6000 SERIES AXIAL PROBES ARE PRECISION, SOLID STATE MAGNETIC FIELD SENSORS DESIGNED FOR USE WITH F.W. BELL 6000 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
- 2.3 OPERATING TEMPERATURE RANGE : 0°C TO +75°C (+32°F TO +167°F)
- 2.4 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.

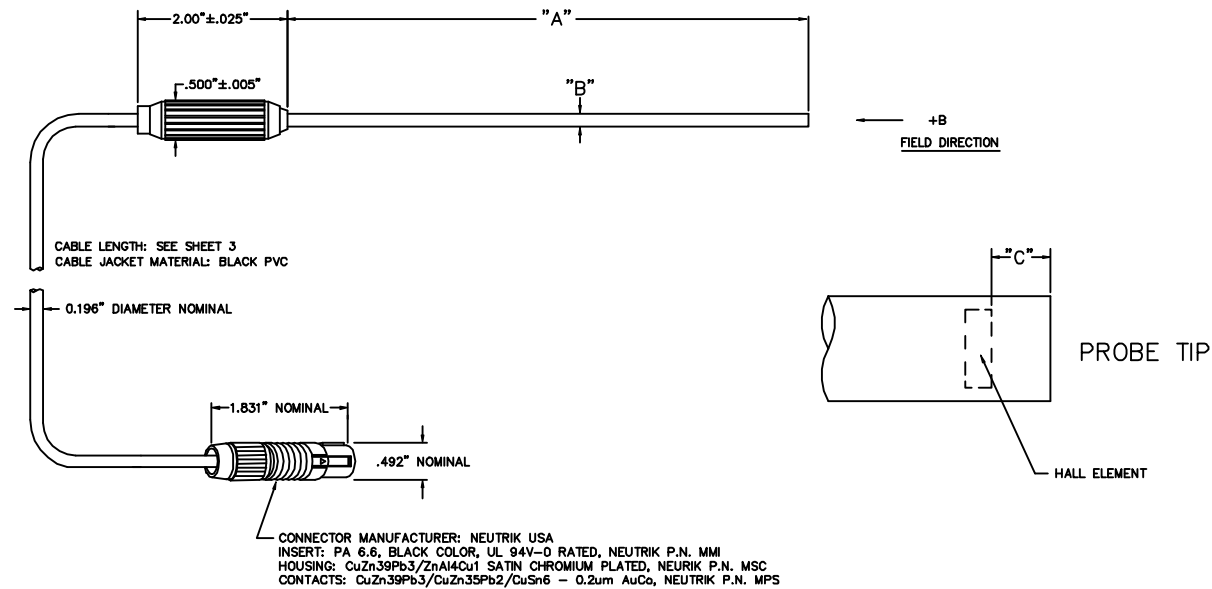


FIGURE 2. AXIAL PROBES (REF. ②5 THRU ③3)

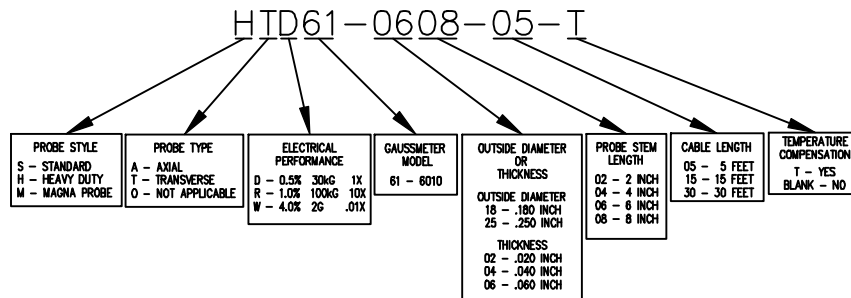


TABLE 1. ELECTRICAL SPECIFICATIONS FOR TRANSVERSE PROBES

REF	MODEL NO.	"A" ±.063"	"B"	"C"	"D"	MATERIAL	CORRECTED LINEARITY	SENS	ACTIVE AREA	OP. TEMP RANGE	TEMP. STABILITY		HALL DEVICE TYPE	FREQ. RESP.	TEMPERATURE COMPENSATED	CABLE LENGTH					
											ZERO	CAL									
2	HTD61-0608-05-T	8"	0.180" ±.003"	0.060" +.000" -.004"	0.150" ±0.020"	ALUMINUM 3003 3/4 FH	0.5%/30KG	1X	0.070" DIA. (NOM)	0°C TO +75°C	±0.300 GAUSS PER °C (TYP)	-0.05% PER °C (TYP)	JB-3913-01	DC TO 20 KHz	YES	5 FEET					
3	HTD61-0608-15-T															15 FEET					
4	HTD61-0608-30-T															30 FEET					
5	HTD61-0608-05												JB-3913-02	DC TO 20 KHz	NO	5 FEET					
6	HTD61-0608-15					15 FEET															
7	HTD61-0608-30					30 FEET															
8	HTR61-0608-05					4"	0.150" ±.004"	0.040" +.000" -.004"					G 10 RIGID GLASS EPOXY	1.0%/100KG	10X	YD-2381-014	DC	YD-2381-012	DC TO 20 KHz	NO	5 FEET
9	HTR61-0608-15																				15 FEET
10	HTR61-0608-30	30 FEET																			
11	STD61-0404-05	5 FEET																			
12	STD61-0404-15	2"	0.150" ±.004"	0.040" +.000" -.004"	G 10 RIGID GLASS EPOXY	0.5%/30KG	1X	YD-2381-012	DC TO 20 KHz	YD-2381-012	DC TO 20 KHz	NO	15 FEET								
13	STD61-0404-30												30 FEET								
14	STD61-0402-05												5 FEET								
15	STD61-0402-15												15 FEET								
16	STD61-0402-30												30 FEET								

REF	MODEL NO.	"A" ±.063"	"B"	"C"	"D"	"E"	"F"	"G"	MATERIAL	CORRECTED LINEARITY	SENS	ACTIVE AREA	OP. TEMP RANGE	TEMP. STABILITY		HALL DEVICE TYPE	FREQ. RESP.	TEMPERATURE COMPENSATED	CABLE LENGTH
														ZERO	CAL				
17	STD61-0204-05	4"	0.155" ±.005"	0.040" +.002" -.009"	0.130" ±0.008"	0.375" ±0.063"	0.130" ±0.003"	0.020" ±0.003"	FLEXIBLE RUBBER	0.5%/30KG	1X	0.070" DIA. (NOM)	0°C TO +75°C	±0.300 GAUSS PER °C (TYP)	-0.05% PER °C (TYP)	YD-2381-012	DC TO 20 KHz	NO	5 FEET
18	STD61-0204-15																		15 FEET
19	STD61-0204-30																		30 FEET

TABLE 2. ELECTRICAL SPECIFICATIONS FOR AXIAL PROBES

REF	MODEL NO.	"A" ±.063"	"B"	"C"	MATERIAL	CORRECTED LINEARITY	SENS	ACTIVE AREA	OP. TEMP RANGE	TEMP. STABILITY		HALL DEVICE TYPE	FREQ. RESP.	TEMPERATURE COMPENSATED	CABLE LENGTH												
										ZERO	CAL																
25	HAD61-2508-05-T	8"	0.250" ±.005"	0.015" ±.010"	ALUMINUM 3003 3/4 FH	0.5%/30KG	1X	0.030" DIA. (NOM)	0°C TO +75°C	±0.300 GAUSS PER °C (TYP)	-0.05% PER °C (TYP)	JB-3913-02	DC TO 20 KHz	YES	5 FEET												
26	HAD61-2508-15-T														15 FEET												
27	HAD61-2508-30-T														30 FEET												
28	HAD61-2508-05				RIGID PHENOLIC	1.0%/100KG	10X					YD-2384-024	DC	NO	5 FEET												
29	HAD61-2508-15														15 FEET												
30	HAD61-2508-30														30 FEET												
31	SAR61-1802-05	2"	0.180" +.002" -.004"									YD-2384-033	DC		5 FEET												
32	SAR61-1802-15														15 FEET												
33	SAR61-1802-30														30 FEET												

SPECIFICATIONS

GENERAL DESCRIPTION

1.0 THE MOW61-2506 MAGNA PROBE IS A HIGH SENSITIVITY, FLUX MAGNIFIER TYPE OF FIELD SENSOR USEFUL FOR INDICATION, MEASUREMENT AND ANALYSIS OF WEAK MAGNETIC FIELDS WHEN UTILIZED WITH THE APPROPRIATE F.W. BELL, INC GAUSSMETER. BOTH STATIC D.C. AND TIME-VARYING FIELDS CAN BE MEASURED WITH A 100 TIMES INCREASE IN SENSITIVITY. BOTH AMPLITUDE AND FIELD DIRECTION CAN BE OBTAINED AS WELL AS MEASUREMENTS OF SMALL CHANGES IN MAGNETIC FIELDS OF LOW AMPLITUDE AND GENERAL NOISE FIELD APPLICATION.

THE MAGNA PROBE IS DESIGNED FOR USE IN RELATIVELY UNIFORM, HOMOGENOUS MAGNETIC FIELDS (3 CU. FT. MIN) WHERE GRADIENTS ARE LOW WITH RESPECT TO PROBE DIMENSIONS.

2.0 ELECTRICAL AND PHYSICAL SPECIFICATIONS

- 2.1 SENSITIVITY - ALL MAGNA PROBES FEATURE A 100X SENSITIVITY INCREASE.
- | SENSITIVITY | GAUSSMETER RANGE |
|------------------|---|
| MAGNA PROBE .01X | DIVIDE RANGE BY 100
(100 TIMES MORE SENSITIVITY) |
- 2.2 PROBE RANGE - 0 TO 2 GAUSS
- 2.3 LINEARITY - ±4 % OF READING

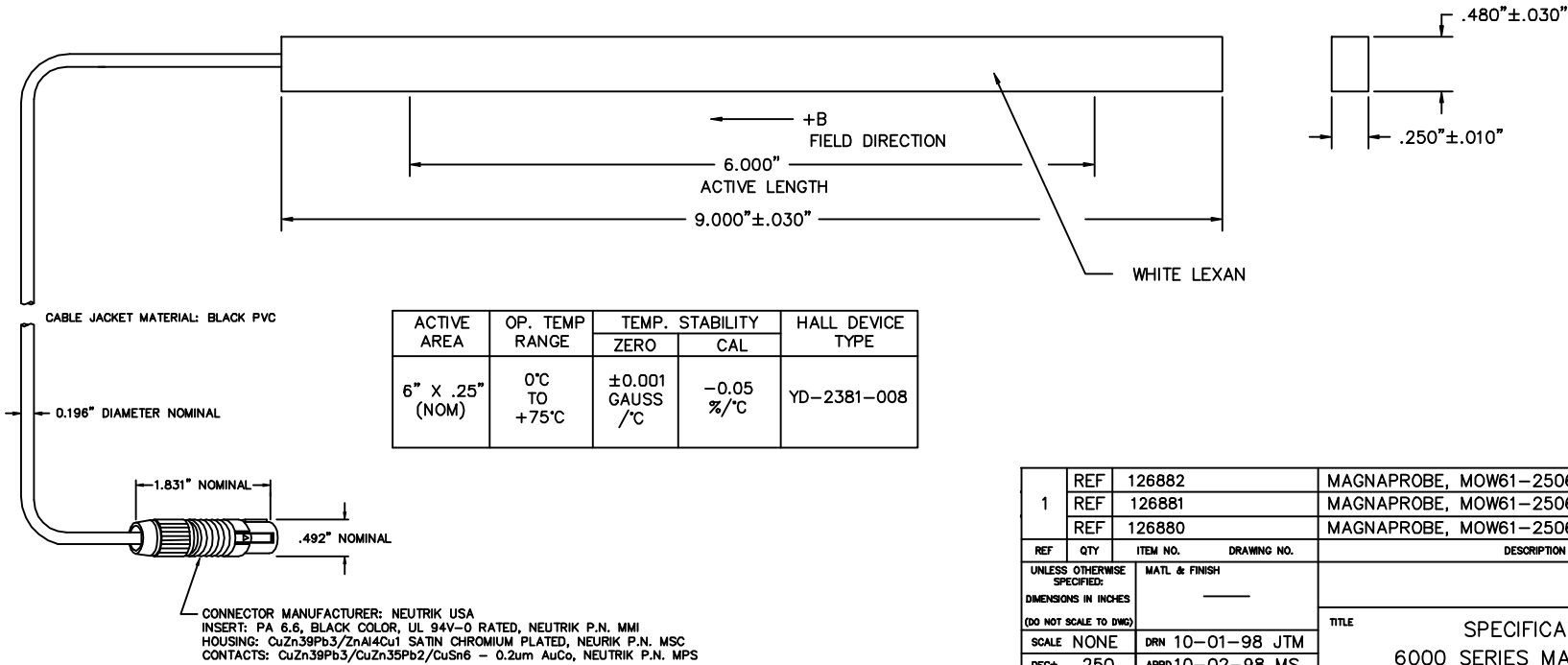
- 2.4 RESIDUAL FLUX - ±2% OF F.S (F.S.= 2 GAUSS)
- 2.5 FREQUENCY RESPONSE - DC TO 20 KHz
- 2.6 ELECTRICAL SCHEMATIC - REF 3
- 2.7 STORAGE TEMP.RANGE - 0° TO + 75° C
- 2.8 WEIGHT - NET 10 OZ
SHIPPING 1 LB

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 GAUSS RANGE WHEN USED WITH THE APPROPRIATE F. W. BELL GAUSSMETER. USE BEYOND THESE RANGES WILL SHOW LINEARITY ERROR GREATER THAN THE SPECIFICATIONS.
- 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.



1	REF	126882	MAGNAPROBE, MOW61-2506-30, 30 FT LONG		
	REF	126881	MAGNAPROBE, MOW61-2506-15, 15 FT LONG		
	REF	126880	MAGNAPROBE, MOW61-2506-05, 5 FT LONG		
REF	QTY	ITEM NO.	DRAWING NO.	DESCRIPTION	
UNLESS OTHERWISE SPECIFIED:		MATL & FINISH		TITLE SPECIFICATIONS 6000 SERIES MAGNAPROBES	
DIMENSIONS IN INCHES		_____			
(DO NOT SCALE TO DWG)					
SCALE	NONE	DRN	10-01-98 JTM		
DEC±	.250	APPD	10-02-98 MS		
FRAC±	_____	QA APPD	10-02-98 RMB	SHT 1 OF 1	DWG NO. UC-5869
ANG±	_____	REL	10-02-98 JTM		
				REV	-