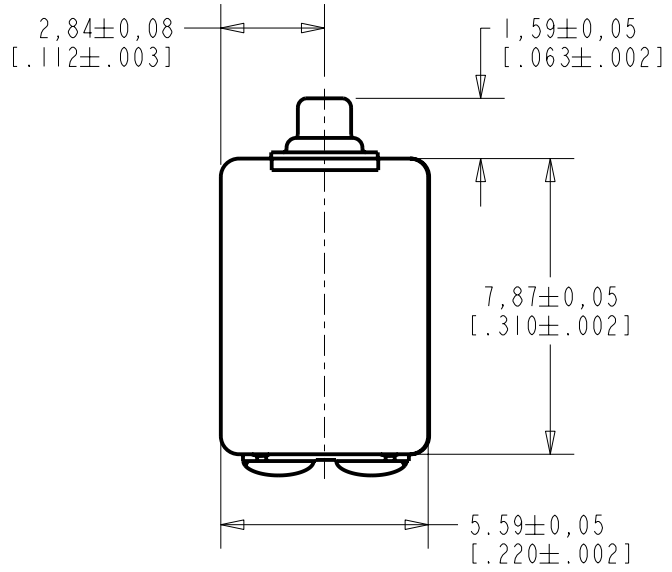
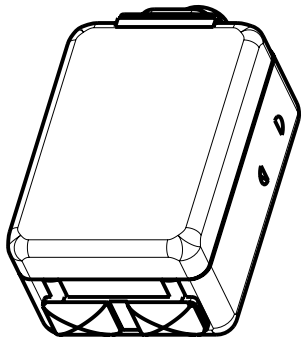
PHF-23956-000
SHT 1.1

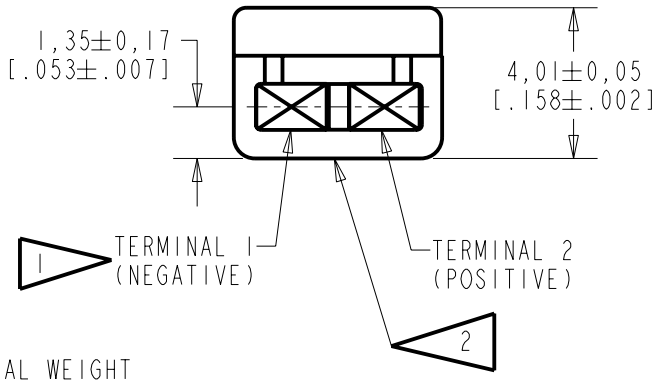


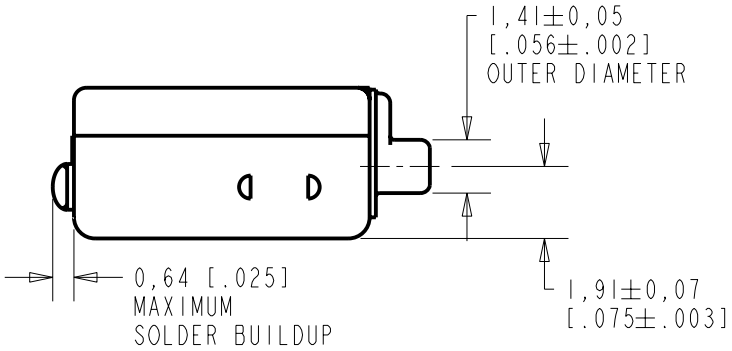


SCALE 5:1

NOTES:

1. A POSITIVE GOING VOLTAGE AT TERMINAL 2, RELATIVE TO TERMINAL 1, CAUSES A DECREASE IN PRESSURE AT THE SOUND OUTLET.
2. VIBRATION RESPONSE MEASUREMENT: MOUNT UNIT WITH THIS SURFACE CENTERED OVER FORCE TRANSDUCER.





NOMINAL WEIGHT
.71 GRAMS

DIMENSIONS IN MILLIMETERS [INCHES]

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
			Released	B
B	C10104591	8-31-06		
A	C10103246	10-26-05		

KNOWLES ELECTRONICS
ITASCA, ILLINOIS U.S.A.

SCALE: 5:1

DO NOT SCALE DRAWING

TITLE: RECEIVER
OUTLINE DRAWING

PHF-23956-000
SHT 1.1

DR. BY	DATE
CRG	10-26-05
CK. BY	DATE
GJP	11-29-05
APP. BY	DATE
GJP	11-29-05

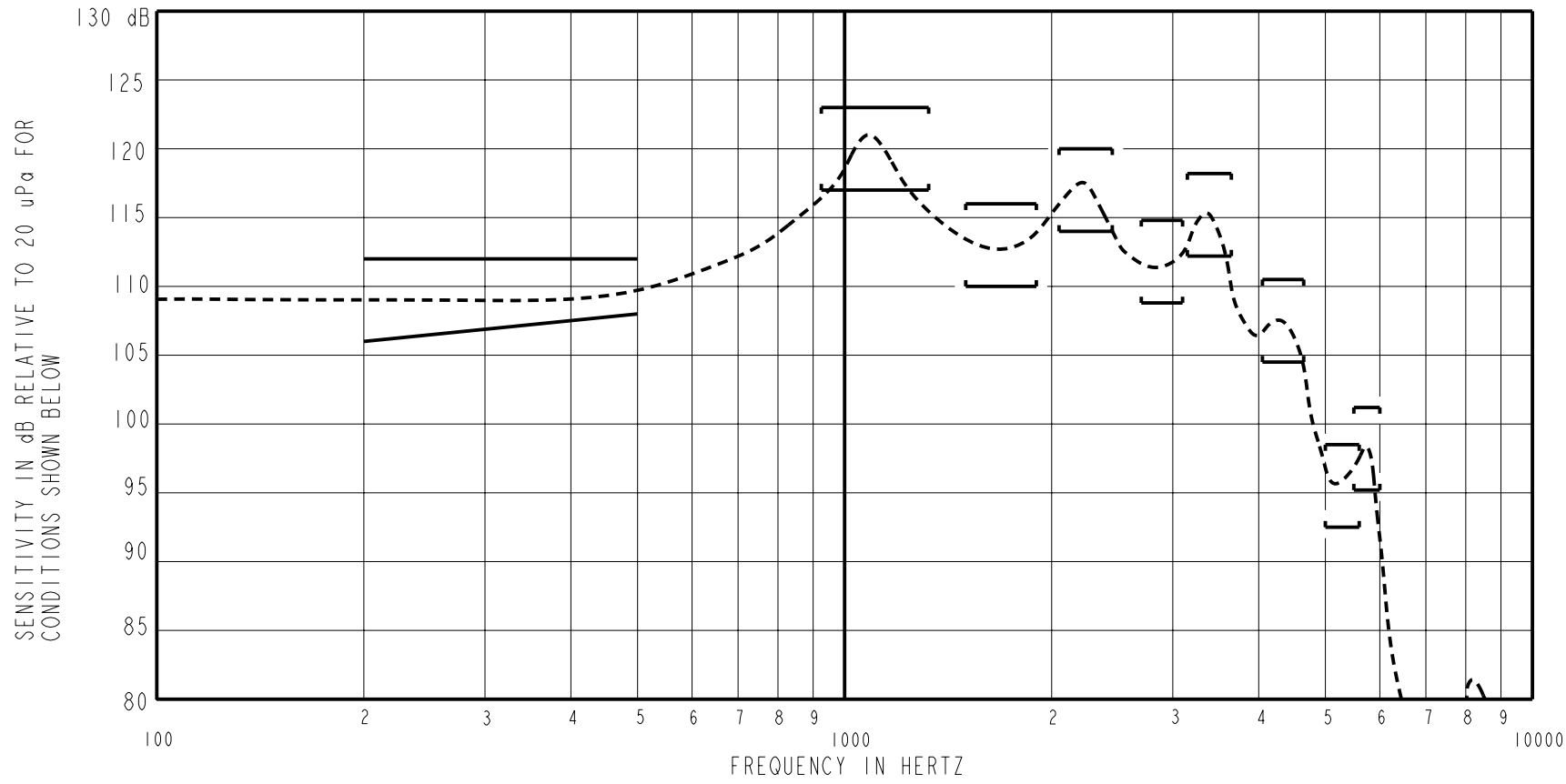
KE11ASIZE.FRM Rev: B

DESCRIPTION

THE PHF-3955-000 IS A MAGNETIC BALANCED ARMATURE RECEIVER INTENDED FOR USE IN BTE HEARING INSTRUMENTS. THE PHF FAMILY OFFERS 4 dB HIGHER OUTPUT LEVELS IN THE SAME SIZE PACKAGE AS THE EF FAMILY, AND REDUCED VIBRATION. ALL PHF UNITS HAVE SHOCK PROTECTION. THIS MODEL HAS MEDIUM LOW IMPEDANCE AND IS UNDAMPED. THIS MODEL USES A LOW INDUCTANCE COIL AND LIGHT DIAPHRAGM FOR INCREASED HIGH FREQUENCY OUTPUT COMPARED TO STANDARD PHF MODELS.

NOTE: SPECIFICATIONS FOLLOWED BY AN ASTERISK (*) ARE 100% TESTED.

CONSTANT VOLTAGE DRIVE RESPONSE



ACOUSTICAL

SENSITIVITY*
DEVICE WILL PRODUCE THE SPL LISTED BELOW WITH THE TEST CONDITIONS DESCRIBED IN TABLE 3. NOMINAL SENSITIVITY AT 500 Hz IS dB RELATIVE TO 20uPa. ALL OTHER VALUES IN dB RELATIVE TO THE SENSITIVITY AT 500 Hz.

FREQUENCY (Hz)	MINIMUM	NOMINAL	MAXIMUM
200	-4.0	-1.0	+2.0
500	-2.0	110.0	+2.0
925-1325 PEAK	+7	+10	+13
1500-1900 VALLEY	0.0	+3.0	+6.0
2050-2450 PEAK	+4	+7	+10
2700-3100 VALLEY	-1.2	+1.8	+4.8
3150-3650 PEAK	+2.2	+5.2	+8.2
4050-4650 PEAK	-5.5	-2.5	+0.5
5000-5600 VALLEY	-17.5	-14.5	-11.5
5500-6000 PEAK	-14.8	-11.8	-8.8

TABLE 1.

TOTAL HARMONIC DISTORTION*
DEVICE WILL NOT EXCEED TOTAL HARMONIC DISTORTION LEVELS LISTED BELOW.

FREQUENCY (Hz)	DRIVE (V RMS)	DC BIAS (MA)	LIMIT (%)
390	.180 V	0	5
580	.180 V	0	5
500	.720 V	0	10

TABLE 2.

TEST CONDITIONS

NOMINAL SOURCE VOLTAGE	.180 Vrms, 0 Vdc BIAS
SOURCE IMPEDANCE	< 1 Ω
TUBING	8 mm (.315) LONG X 1 mm (.039) ID 28 mm (1.10) LONG X 1.5 mm (.059) ID 25 mm (.984) LONG X 2 mm (.079) ID 18 mm (.710) LONG X 3 mm (.118) ID
COUPLER CAVITY	2 CC SIMULATED ANSI S3.7 TYPE HA-3, (IEC 126)

TABLE 3.

POLARITY
POSITIVE SIGNAL APPLIED TO TERMINAL 2 WILL PRODUCE A DECREASE IN SOUND PRESSURE AT THE SOUND OUTLET.

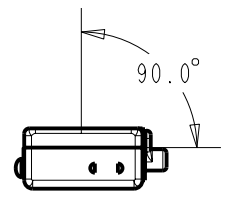
ELECTRICAL

DC RESISTANCE	39Ω ±10%	
IMPEDANCE @ 500 Hz	50Ω ±15%	*
IMPEDANCE @ 1 kHz	89Ω ±20%	*
INDUCTANCE @ 500Hz	6.5mH ±15%	
CAPACITANCE @ 10 MHz	8pF ±20%	

TABLE 4.

ISOLATION: THE CASE WILL BE ELECTRICALLY ISOLATED FROM THE COIL CIRCUIT*

MAGNETIC RADIATION
WORST CASE: FIELD WILL BE LESS THAN LEVEL STATED BELOW AT AMPLIFIER CLIPPING (.920 V).
TBD dB re 1µA/m
DISTANCE OF 10 mm FROM CENTER OF RECEIVER
ANGLE OF 90 DEGREES FROM TUBE



SCALE 2:1

MECHANICAL

PORT LOCATION: 12S

TEMPERATURE
OPERATING: SENSITIVITY WILL NOT VARY MORE THAN +1/-3 dB FROM -17°C TO 63°C
STORAGE: -40°C TO 63°C

RELIABILITY
UNITS WILL SURVIVE ANY OF THE FOLLOWING ACCELERATED LIFE TESTS. REPORT AVAILABLE FROM QA DEPARTMENT.

HALT TEST (8 WEEKS, 63°C, 95% RH, 0.72V, 500 Hz SIGNAL)
HIGH TEMPERATURE STORAGE (63°C, 72 HOURS)
LOW TEMPERATURE STORAGE (-40°C, 72 HOURS)
DAMP HEAT CYCLING (ALTERNATE 25°C TO 63°C, 93% RH, 20 CYCLES
THERMAL SHOCK (-40°C TO 63°C, 5 CYCLES)
SOLDER/DESOLDER CYCLING (5 CYCLES)
SOLDER PAD STRENGTH (STRENGTH > 1.8LBS)
STRESS TEST (1.78 Vrms AT2150 Hz SIGNAL, 1 HOUR)
MECHANICAL SHOCK
LEAK TEST AFTER AGING (NO LEAK AFTER ANY OF THE ABOVE TESTS)

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
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A	C10103246	10-26-05		

KNOWLES ELECTRONICS
ITASCA, ILLINOIS U.S.A.

WHEN TEST LIMITS ARE USED TO ESTABLISH INCOMING INSPECTION ACCEPTANCE/REJECTION CRITERIA, CORRELATION OF TEST EQUIPMENT WITH KNOWLES IS ALSO REQUIRED FOR ELIMINATION OF EQUIPMENT AND TEST METHOD VARIATION

TITLE: RECEIVER
PERFORMANCE SPECIFICATION

PHF-23956-000
SHT 2.1

DR. BY	DATE
CRG	10-26-05
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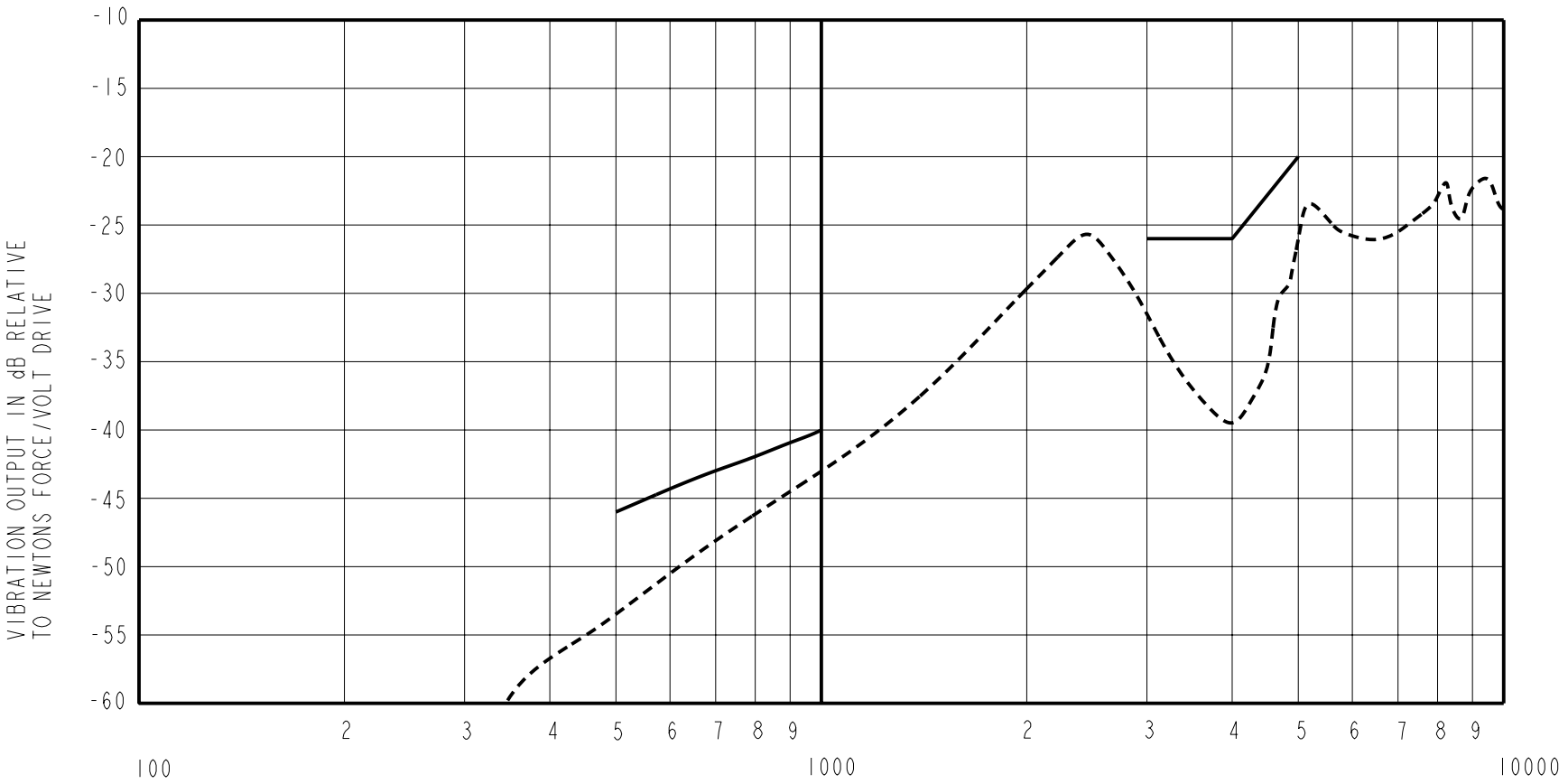
VIBRATION RESPONSE IN DIRECTION PERPENDICULAR TO DIAPHRAGM



NOTES:

1. VIBRATION RESPONSE

FREQUENCY	MAX.
500	-46.0
1000	-40.0
3000	-26.0
4000	-26.0
5000	-20.0

2. VIBRATION RESPONSE MEASURED WITH DEVICE FIXED TO A PIEZOELECTRIC FORCE TRANSDUCER IN THE ORIENTATION DESCRIBED IN THE SHEET 1.1 OUTLINE DRAWING. THIS REPRESENTS THE DIRECTION WITH THE STRONGEST VIBRATION OUTPUT, NORMAL TO THE RECEIVER DIAPHRAGM. THE RECOMMENDED FORCE SENSOR IS PCB PIEZOTRONICS MODEL 208C01 OR FUNCTIONAL EQUIVALENT.

3. THE ACOUSTIC OUTPUT IS VENTED TO FREE AIR DURING MEASUREMENT.

4. THE UNIT IS TESTED WITH A VOLTAGE DRIVE INPUT CHOSEN FOR SUFFICIENT MEASUREMENT SIGNAL-TO-NOISE RATIO, BUT NOT TO EXCEED 0.72 VRMS.

Revision	C.O. #	Implementation Date	RELEASE LEVEL	REVISION
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ITASCA, ILLINOIS U.S.A.

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TITLE: RECEIVER
PERFORMANCE SPECIFICATION

PHF-23956-000
SHT 2.2

DR. BY	DATE
CRG	10-26-05
CK. BY	DATE
GJP	11-29-05
APP. BY	DATE
GJP	11-29-05