

10749

REF. NO:

REVISION

C.O.N	SYM	DESCRIPTION	DATE	DRAWN	APPR'D
	A	(1) WAS $\pm 0.4^\circ$ . (2) WAS $\pm 1.2^\circ$ .	10/02/02	T.TSUGAWA	Y.N.

**1.0 GENERAL DESCRIPTION:**

MODEL UV-3HF IS A HIGHLY RELIABLE INCLINOMETER, DESIGNED WITH MIDORI PROPRIETARY "BUOY-FLOAT" CONCEPT. THIS UNIQUE CONCEPT ALLOWS THE INCLINOMETER TO HAVE LITTLE OR NO MECHANICAL LOAD ON THE PIVOT, FEATURING LONG OPERATING LIFE AND MINIMAL EFFECT DUE TO SHOCK AND VIBRATION. ALSO, USING A TEMPERATURE STABLE "HALL-EFFECT" IC SENSOR WITH AMPLIFIERS AND SIGNAL CONDITIONING CIRCUIT, THIS MODEL OFFERS USERS AN OPTIMUM SOLUTION FOR TILT ANGLE SENSING APPLICATIONS IN SEVERE OPERATING CONDITIONS.

**2.0 SPECIFICATIONS:** (REFER TO FIGURES 1, 2, 3 AND 4)

- 2.1 ELECTRICAL ANGLE:**  $\pm 20^\circ$  (F.S.= $40^\circ$ )
- 2.2 INPUT VOLTAGE,  $V_{in}$ :** 5 Vdc  $\pm 10\%$
- 2.3 OPERATING CURRENT:** 10 mA MAX.
- 2.4 OUTPUT VOLTAGE,  $V_o$ :** @ $T_a=25^\circ\text{C}$ ,  $V_{in}=5\text{ Vdc}$ ,  $R_L=10\text{ kOHMS}$
- (1) SENSITIVITY:  $(70 \pm 20)\text{ mV}/1^\circ$
- (2) INDEPENDENT LINEARITY:  $\pm 2\%$  F.S.
- (3) HYSTERESIS:  $0.5^\circ$  MAX.
- (4) INDEX POINT:  $2.5 \pm 0.25\text{ V}$
- 2.5 RESPONSE TIME:** APPROX. 1 SECOND
- 2.6 INSULATION RESISTANCE:** 100 megOHMS @ 50 Vdc
- 2.7 OPERATING TEMPERATURE:**  $-30^\circ\text{C}$  to  $+80^\circ\text{C}$   
 $-40^\circ\text{C}$  to  $+85^\circ\text{C}$  (STORAGE)
- 2.8 TEMPERATURE EFFECT:** (EXPRESSED AS CHANGE IN EQUIVALENT ANGLE OVER THE OPERATING TEMPERATURE RANGE, REFERENCED FROM  $T_a=25^\circ\text{C}$ )
- (1) @  $0^\circ$  TILT ANGLE:  $\pm 0.5^\circ$  MAX.
- (2) @  $\pm 20^\circ$  TILT ANGLE:  $\pm 1.5^\circ$  MAX.
- 2.9 VIBRATION:** 6.8 Gs, 16.7 Hz to 200 Hz
- 2.10 SHOCK:** 100 Gs
- 2.11 WEIGHT:** APPROX. 8 gr (0.28 oz)

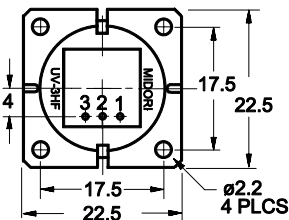
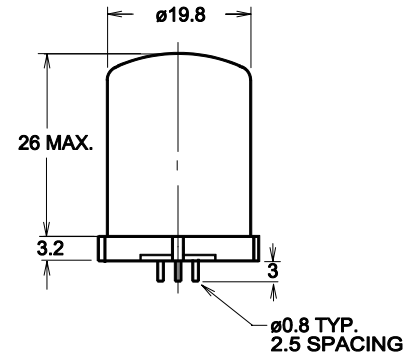


FIGURE 1 OUTLINE DIMENSIONS

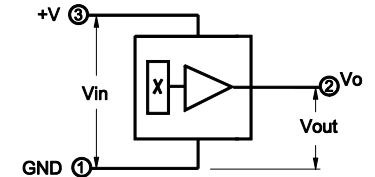


FIGURE 2 SCHEMATIC

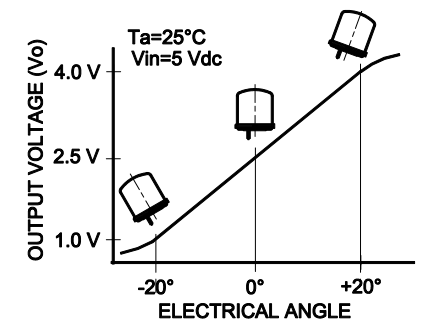


FIGURE 3 OUTPUT CHARACTERISTICS

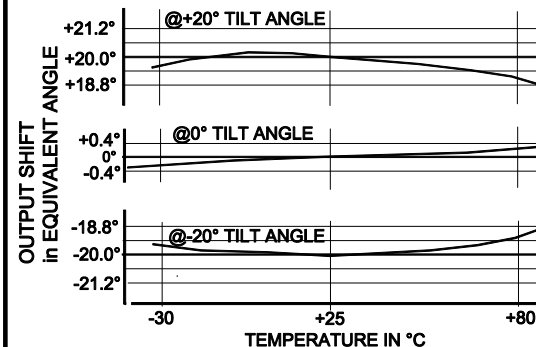


FIGURE 4 TEMP. CHARACTERISTICS (REF. ONLY)

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN mm(in).

TOLERANCES:  
 ANGLES:  $\pm 1.5^\circ$   
 $\leq 10\text{ mm}$ :  $\pm 0.25$   
 $< 100\text{ mm}$ :  $\pm 0.5$   
 $\geq 100\text{ mm}$ :  $\pm 1$

DRAWN	T. TSUGAWA	DATE	04/20/98
CHECKED	H. KOMABA	DATE	02/17/01
APPROVED		DATE	
APPROVED		DATE	

SPECIFICATION DWG  
 FOR  
 MODEL UV-3HF  
 INCLINOMETER  
 BUOY-FLOAT TYPE

B-MAC-B16 | A

SCALE:

FILE: UV-3HF

1 OF 1



GEMISA

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