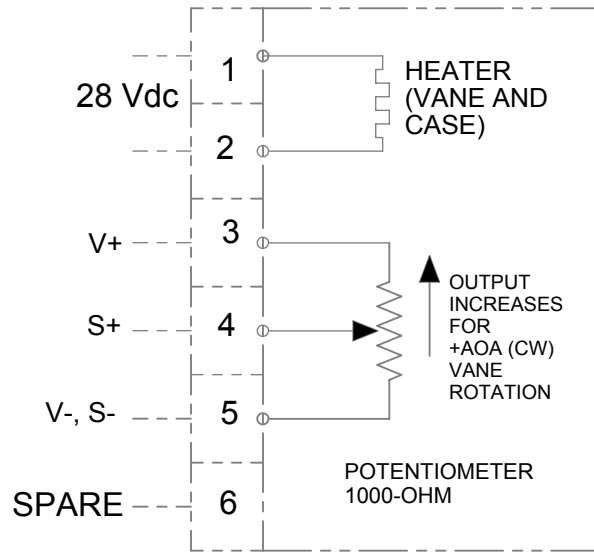
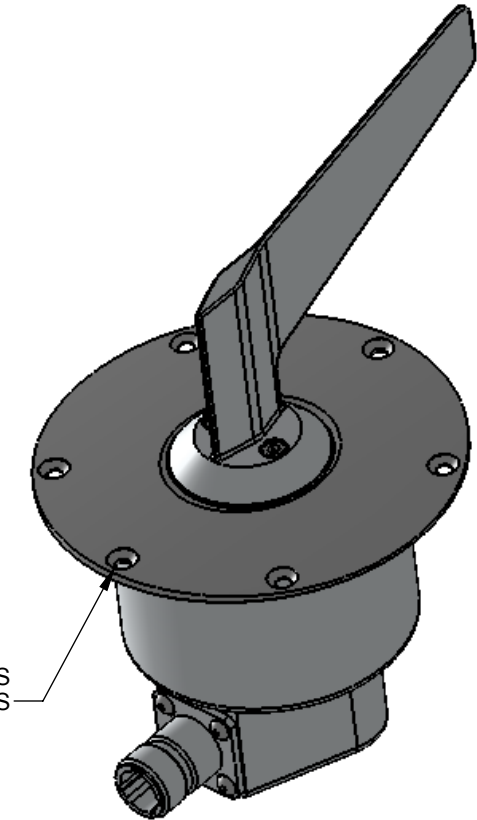
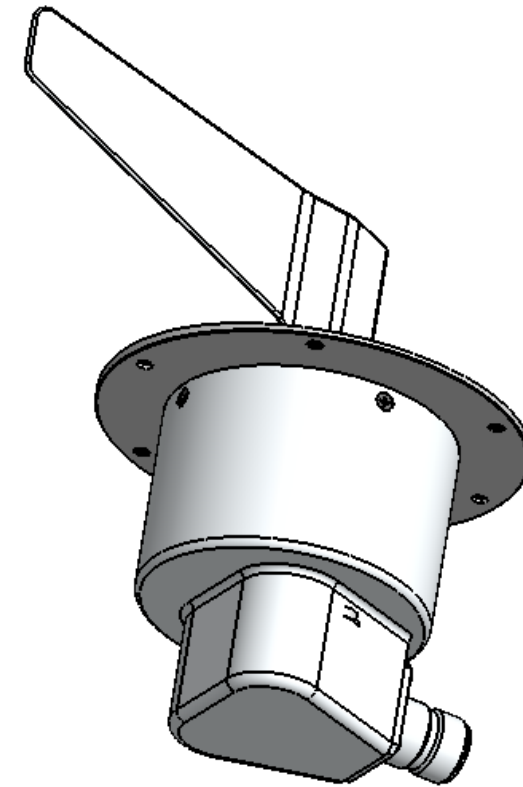
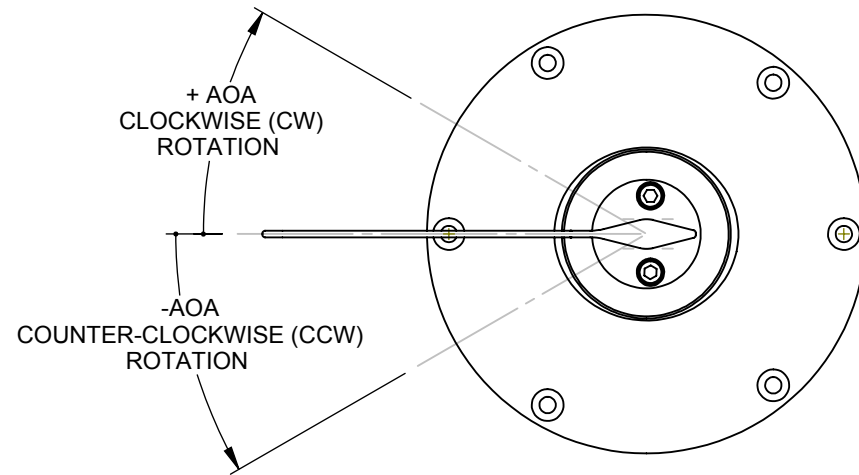


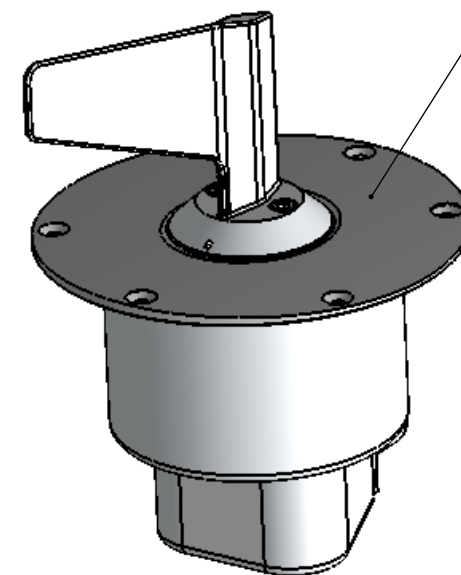
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SCHEMATIC



6X COUNTERSINK HOLES FOR NO. 6 FLAT HEAD X 100° SCREWS



TOP SURFACE OF FLANGE IS CONTOURED WITH A RADIUS, BOTTOM SIDE IS FLAT

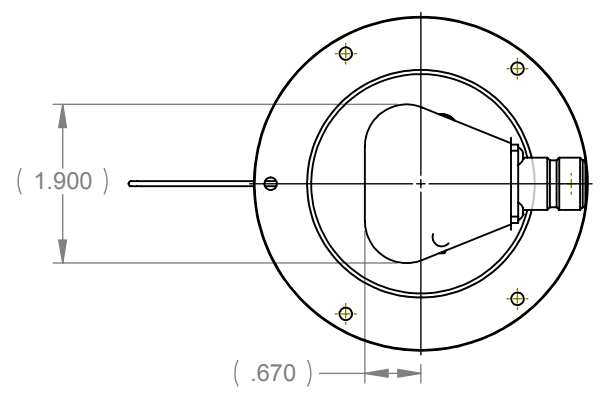
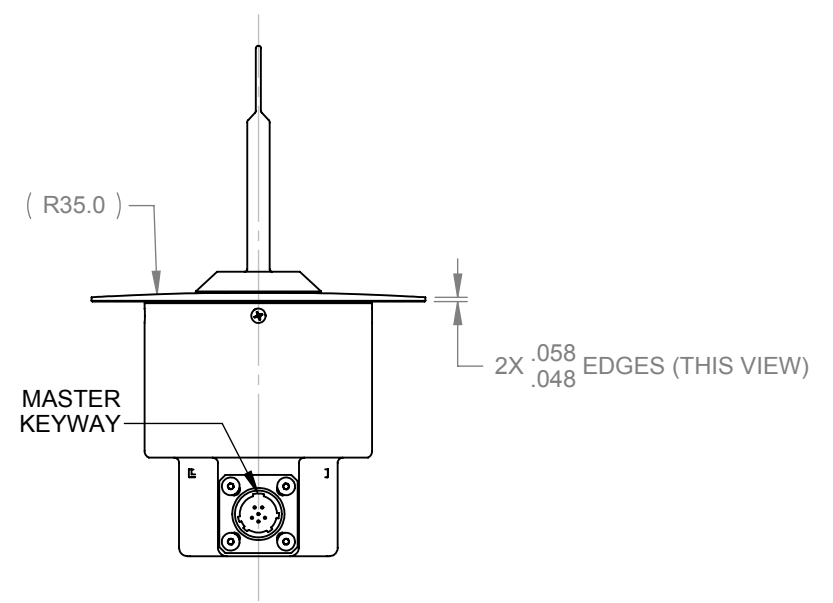
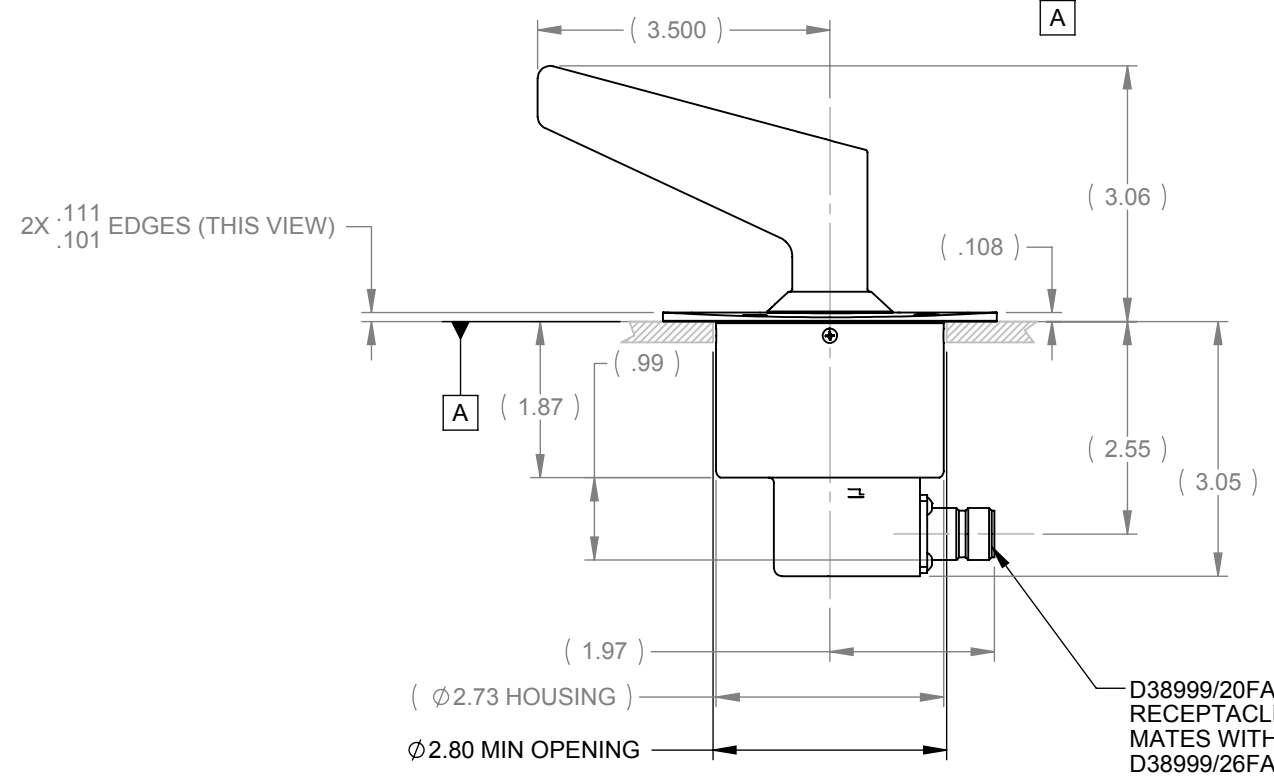
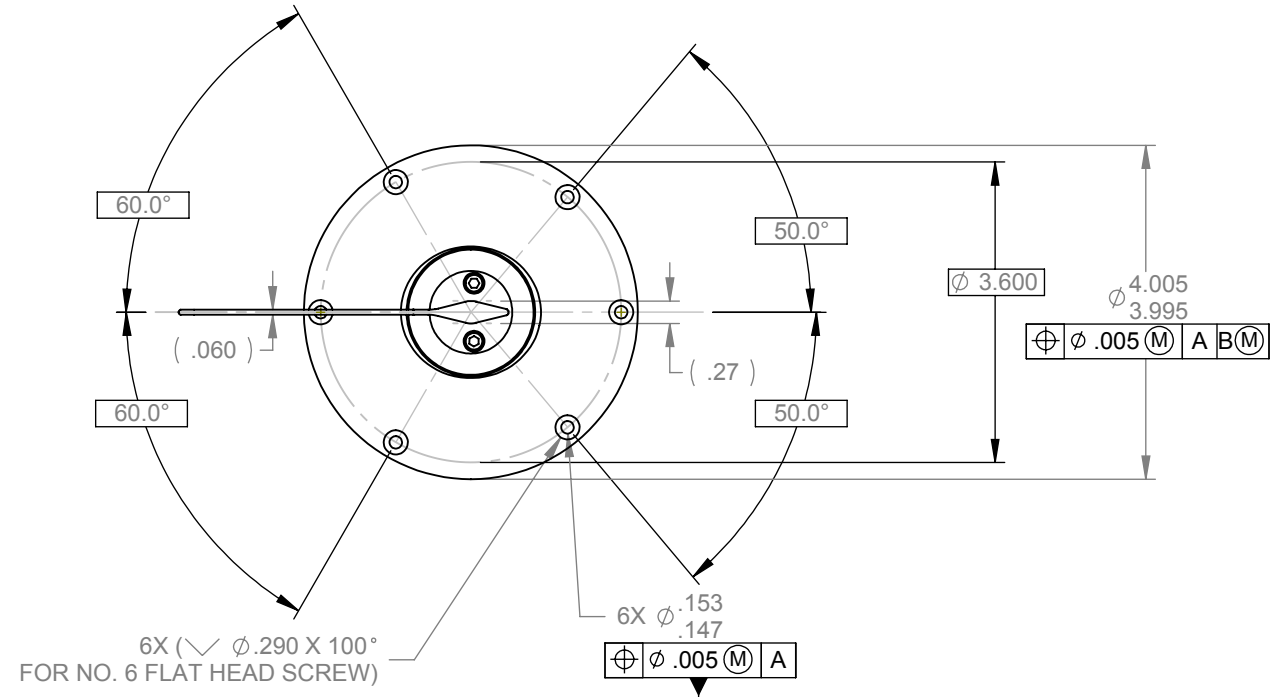
NOTES:

1. DESCRIPTION: ANGLE OF ATTACK (AOA) VANE WITH HEATED VANE AND CASE. SENSING ELEMENT IS A RESISTIVE POTENTIOMETER (POT). OUTPUT VOLTAGE (S+ TO S-) IS A RATIO OF THE INPUT VOLTAGE (V+ TO V-).
2. HEATER IS 28-VOLT HEATER SELF-REGULATING (I.E. RESISTANCE INCREASES AS TEMPERATURE INCREASES). MAXIMUM POWER IS ACHIEVED IN HIGH AIRFLOW AND ICING CONDITIONS.
 - MAX IN-FLIGHT CONTINUOUS POWER: 100 WATTS (3.57 AMPS)
 - POWER IN STILL AIR CONDITIONS: LESS THAN 60 WATTS (2.14 AMPS)
 - INITIAL POWER SURGE: 15 AMPS MAX, DROPS TO LESS THAN 3.6 AMPS WITHIN 30 SECONDS.
3. ANTI-ICING PERFORMANCE: WITHSTANDS IN-FLIGHT ICING CONDITIONS AT -30 °C, 300 KNOTS. TEST VALIDATION IN ACCORDANCE WITH FAA TSO-C16A AND BSI 2G-135 (SECTION 8.7.2).
4. WEIGHT: 1 LB MAX
5. STRUCTURAL INTEGRITY: VANE WILL NOT BREAK OFF DUE TO BIRD STRIKE OR ICE BALL IMPACT.
6. MECHANICAL TRAVEL: THE VANE HAS INTEGRAL MECHANICAL STOPS THAT ARE OUTSIDE OF THE -30° TO +45° AOA PRIMARY SENSING RANGE. MAXIMUM MECHANICAL RANGE OF TRAVEL SHALL NOT TO EXCEED -35° TO +50°.
7. ELECTRICAL CHARACTERISTICS:
 - POT RESISTANCE (PINS 3 AND 5): 800 - 1200 OHMS
 - POT ELEMENT POWER DISSIPATION (PINS 3 AND 5): 1.0 WATT MAX AT 70 °C.
 - MAX INPUT VOLTAGE (PINS 3 AND 5): 28.3 Vdc
 - OUTPUT CURRENT (PIN 4, WIPER): 10 mA MAX PEAK, 1.0 mA MAX CONTINUOUS.
 - OUTPUT VOLTAGE (PINS 4 AND 5) INCREASES LINEARLY WITH +AOA (CW) ROTATION OF VANE (SEE DRAWING) FROM -30° TO +45° AOA.
 - OUTPUT VOLTAGE AT -AOA MECHANICAL STOP IS NOT LESS THAN 5% OF THE INPUT VOLTAGE. OUTPUT VOLTAGE AT +AOA MECHANICAL STOP IS NOT GREATER THAN 95% OF THE INPUT VOLTAGE.
8. OUTPUT VOLTAGE EQUATION: $\alpha = 91.463 \times (VR) - 38.232$
 WHERE α = ANGLE IN DEGREES
 $VR = (\text{OUTPUT VOLTS}) / (\text{INPUT VOLTS})$
9. ACCURACY / INTERCHANGEABILITY TOLERANCES:
 - A) $\pm 0.15^\circ$ OVER RANGE +3° TO +18° AOA
 - B) $\pm 0.35^\circ$ OVER RANGE +19° TO +45° AOA
 - C) $\pm 0.35^\circ$ OVER RANGE -30° TO +3° AOA

SPA PN 4470-01

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN B.P. DATE 04-01-09			
		APPROVALS			
MATERIAL SEE NOTES		CHECKED DIGITAL - ON FILE		HEATED ANGLE OF ATTACK VANE	
FINISH SEE NOTES		ENG DIGITAL - ON FILE			
CAD GENERATED DRAWING, DO NOT MANUALLY UPDATE		SIZE B	CAGE CODE 34851	DWG. NO. 4470	REV. -
		SCALE	CAD FILE:	SHEET 1 OF 2	

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SIZE	CAGE CODE	DWG. NO.	REV.
B	34851	4470	-
SCALE	CAD FILE:	SHEET	OF
		2	2