AEROSPACE PROXIMITY SENSORS, GAPS & HAPS SERIES

TABLE 1. GAPS SERIES AND HAPS SERIES PERFORMANCE SPECIFICATIONS

CHARACTERISTIC	PARAMETER	
Mechanical Characteristics	**GAPS**	**HAPS**
Weight	Less than 60 grams (inline variants); 85 grams (right-angle variants)	60 g to 150 g
Sealing	Hermetically sealed	Hermetically sealed, pigtail versions environmentally sealed
Connector/leads	D38999/25YA98PN D38999/25YA98PA EN2997Y10803MN	• D38999/25YA98PN • D38999/25YA98PA • EN2997Y10803MN • M83723/90Y1005N • M83723/90Y10056 • M83723/90Y10057 • M83723/90Y10058 • Pigtail
Form factor	• Inline, cylindrical, threaded • Right angle, cylindrical, threaded • Inline, cylindrical, flanged • Right angle, cylindrical, flanged	• Inline, cylindrical, threaded • Right angle, cylindrical, threaded • Inline, cylindrical, flanged • Right angle, cylindrical, flanged
Sensing distance	3,5 mm max.	4 mm max.
Sensing face	Inconel®	Inconel®
Outer body material	Stainless steel	Stainless steel
Sensor head diameter	13,5 mm [0.53 in]	13,5 mm [0.53 in]
Sensor length	55 mm [2.17 in] max.	various; 60 mm [2.36 in] max.
Target (typical)	SS 17-4PH rectangular target with dimensions 25 mm x 18 mm x 3 mm [0.98 in x 0.71 in x 0.12 in]	SS 17-4PH rectangular target with dimensions 25 mm x 18 mm x 3 mm [0.98 in x 0.71 in x 0.12 in]
MTBF	500,000 flight hours	500,000 flight hours
Electrical Characteristics	**GAPS**	**HAPS**
Supply voltage	12 Vdc to 32 Vdc (input)	12 Vdc to 28 Vdc
Supply current	<10 mA	<10 mA
Operating temperature range	-55°C to 115°C [-67°F to 239°F]	-55°C to 115°C [-67°F to 239°F]
Storage temperature range	-65°C to 115°C [-85°F to 239°F]	-65°C to 115°C [-85°F to 239°F]
Target response time	5 ms	5 ms
Power on delay time	<1 second	<1 second
Bonding resistance	< 2.5 mΩ	<2.5 mΩ
Dielectric strength	1000 Vdc/750 Vac for 1 minute	500 Vdc/500 Vac for 1 minute
Insulation resistance	200 MΩ min. at 50 Vdc	200 MΩ min. at 50 Vdc
Sensing Characteristics	**GAPS**	**HAPS**
Ga/Gd	see Figure 3	see Figure 3
Target material	17-4 PH stainless steel heat treated to condition H1025	17-4 PH stainless steel heat treated to condition H1025
Target dimension	Rectangular target of 25 mm x 18 mm x 3 mm	Rectangular target of 25 mm x 18 mm x 3 mm

TABLE 2. GAPS SERIES AND HAPS SERIES PERFORMANCE SPECIFICATIONS

CHARACTERISTIC	PARAMETER	
Environmental Characteristics	**GAPS**	**HAPS**
Temperature and altitude	RTCA/DO-160G – Section 4, Category D3	RTCA/DO-160G – Section 4, Category D3
Temperature variation	RTCA/DO-160G – Section 5, Category S2	RTCA/DO-160G – Section 5, Category S2
Humidity	RTCA/DO-160G – Section 6, Category C	RTCA/DO-160G – Section 6, Category C
Operational shock and crash safety	RTCA/DO-160G – Section 7, Category B	RTCA/DO-160G – Section 7, Category B
Vibration	RTCA/DO-160G – Section 8, Category R (Curve E, E1, and W)	RTCA/DO-160G – Section 8, Category R (Curve E, E1, and W)
Explosion safety	RTCA/DO-160G – Section 9, Category E&H	RTCA/DO-160G – Section 9, Category E&H ENV III
Water proofness	RTCA/DO-160G – Section 10, Category R	RTCA/DO-160G – Section 10, Category R
Fluid susceptibility	RTCA/DO-160G – Section 11, Category F	RTCA/DO-160G – Section 11, Category F
Sand and dust	RTCA/DO-160G – Section 12, Category D	RTCA/DO-160G – Section 12, Category D
Fungus resistance	RTCA/DO-160G – Section 13, Category F	RTCA/DO-160G – Section 13, Category F
Salt spray	RTCA/DO-160G – Section 14, Category T	RTCA/DO-160G – Section 14, Category T
Magnetic effects	RTCA/DO-160G – Section 15, Category A	RTCA/DO-160G – Section 15, Category A
Power input	RTCA/DO-160G – Section 16, Category A	RTCA/DO-160G – Section 16, Category A
Voltage spike	RTCA/DO-160G – Section 17, Category A	RTCA/DO-160G – Section 17, Category A
Audio frequency conducted susceptibility	RTCA/DO-160G – Section 18, Category Z	RTCA/DO-160G – Section 18, Category Z
Induced signal susceptibility	RTCA/DO-160G – Section 19, Category CWE	RTCA/DO-160G – Section 19, Category CWE
Radio frequency radiated susceptibility	RTCA/DO-160G – Section 20, Category F	RTCA/DO-160G – Section 20, Category G
Radio frequency conducted susceptibility	RTCA/DO-160G – Section 20, Category W	RTCA/DO-160G – Section 20, Category Y
Radio frequency emission	RTCA/DO-160G – Section 21, Category M	RTCA/DO-160G – Section 21, Category M
Lightning induced transient susceptibility	RTCA/DO-160G – Section 22, Category B3K3L3	RTCA/DO-160G – Section 22, Category B3K3L3
Icing	RTCA/DO-160G – Section 24, Category A	RTCA/DO-160G – Section 24, Category A
Electrostatic discharge	RTCA/DO-160G – Section 25, Category A	RTCA/DO-160G – Section 25, Category A