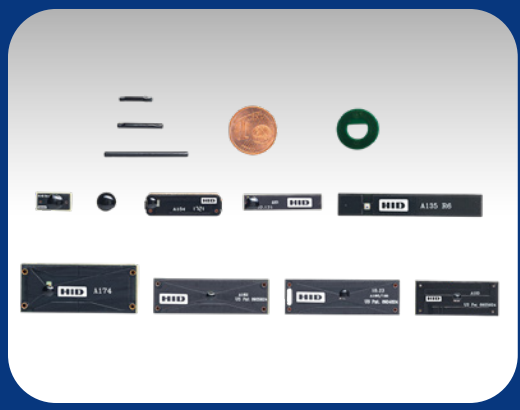
Sentry PCB Tag

Highly Configurable, PCB Based RFID Tags with Exceptional Size-to-Performance Ratio





HID Sentry PCB tags are small footprint, low profile, RFID tags that provide exemplary read range for tags that are so small in size and have minimal ergonomic impact.

Because of its low profile, it is unlikely to be dislodged by rough handling when applied to assets like weapons, hand tools and other small metal parts.

The unique construction of these tags provides a very high level of impact, vibration and temperature resistance. Sentry tags are also resistant to a very wide range of chemicals and have an ingress protection rating of IP 68. Sentry products can easily be adapted for applications involving over-molding and over-spraying or embedding in metal.

HID RFID's Sentry line of high-performance, cost-effective and application-specific RFID tags are based on a printed circuit board platform. This well-established manufacturing process offers unsurpassed reliability and consistency in read range performance. At the core of the tag is a fiber-reinforced composite material that gives the Sentry tag its innate ruggedness. The innovative, patented tag design enables fast prototyping and affordable customization — essential to the expanding requirements of the RFID industry.

The optionally available **Sentry Pro** version of some models features a reinforced design and adhesive sticker to support over 1,000 autoclave sterilization cycles (~138°C), which is more than what most tagged instruments need to endure in terms of repeated extreme temperature cycling. Alternatively, there is the option to further upgrade the Sentry Pro tags to polyimid substrate which increases the maximum endured temperature of Sentry Pro tags up to 464 °F (240°C).

Sentry Instrument is a special variant with an ultra-low profile optimized for long metallic tools like medical instruments or scissors.

Sentry Diam transponders provide high frequency (HF) coils in a robust housing, to withstand the high heat manufacturing processes of special finished tags.

KEY BENEFITS:

- **High performance –** Small hard tags with great read range when mounted on metal (UHF)
- **Rugged –** Tolerates repeated exposure to high temperatures, vibration and impact
- **Autoclave-resistant –** Pro models survive over 1,000 autoclave disinfections

KEY TECHNOLOGY HIGHLIGHTS:

- Includes latest Impinj chipsets, optimized for EU or US (UHF versions)
- Reads distances up to 33 ft (10 m)
- Provides outstanding size-to-performance ratio with small footprint and low profile

TYPICAL APPLICATION AREAS:

- Surgical/medical/dental instrument tracking
- Tool tracking
- Weapons management
- Rental asset tracking
- IT asset management

	Sentry PCB Tag				
	Sentry Diam	**Sentry 4607**	**Sentry 2505**	**Sentry Duo**	**Sentry Shortie**
					
Base Model Number	PCA-01027 629641-012 (SLIX2)	AST1-135-0C10 (EU) AST1-135-0C00 (US)	AST1-161-0C10 (EU) AST1-161-0C00 (US)	AST1-160-0C10 (EU) AST1-160-0C00 (US)	AST1-183-0C10 (EU) AST1-183-0C00 (US)
	ELECTRONIC				
Operating Frequency	13.56 MHZ	(EU) - 865-868 MHZ (ETSI) / (US) - 902-928 MHZ (FCC)			
Chip Type	ICODE 3	M850			
Memory	2432 bit EEPROM	96 bit EPC 32 bits UM			
Anti-collision	Yes				
Reading Distance	Dependent upon reader, environment and application	13 ft (4 m)	11 ft (3.5 m)	18 ft (5 m)	12.5 ft (3.8 m)
	PHYSICAL				
Dimensions	Ø 0.57 in (14.5 mm) , Ø 0.49 in (12.5 mm)	1.8 x 0.28 x 0.07 in (46 x 6.9 x 1.7 mm)	0.98 x 0.21 x 0.09 in (25 x 5.3 x 2.4 mm)	1.43 x 0.43 x 0.11 in (36.3 x 10.9 x 2.8 mm)	1.03 x 0.43 x 0.11 in (26 x 10.9 x 2.8 mm)
Mounting Method	Embed, glue	Adhesive Sticker	Epoxy, adhesive sticker optional	Adhesive sticker / slot for zip-tie	Adhesive sticker
Affixes to	Non-metal	Metal surfaces		Any surfaces	Metal surfaces
Housing Material	Epoxy glob top				
Color	Green+ antenna	Black (with White Label)			
Weight		0.05 oz (1.5 g)	0.03 oz (1 g)	0.07 oz (2 g)	
	CHEMICAL AND MECHANICAL RESISTANCE				
Water	Depends on finished product	IP68, 68° F (20° C), 1 m x 24 h			
Withstands Exposure to	Depends on finished product	Dilute mineral acids, dilute alkali solutions (<20%), alcohols, petroleum, salt mist, vegetable oil, hydraulic fluid and most industrial cleaning agents			
Environmental Test Conditions		68° F (20° C), 100 h			
Vibration & Shock	Depends on finished product	IEC 68.2.6 / IEC 60068-2-27:2008			
Impact		18 in (46cm) drop with 1 in (2.54 cm) diameter steel ball			
	THERMAL				
Storage	-40° to +194° F (-40° to +90° C)	-58° to 185° F (-50° to 85° C)			
Operating	-40° to +185° F (−40° to +85°C)	-58° to 185° F (-50° to 85° C)			
Shock/Fatigue	-40° to +194° F (-40° to +90° C) , 100 x 5 min with 30 sec transition	-40° to +212° F (-40° to +100° C) , 10 x 1h with 10 sec transition			
Autoclave		Sentry Pro tags resist over 1.000 standard autoclave cycles up to 280°F (138°C), including elevated pressure and steam . Further upgrade to polyimid substrate possible on request increasing max. temperature to 464 °F (240°C).			
Peak Temperature	248° F (120° C), 100H	365° F (185° C), 3 h			
	OTHER				
Standards	ISO 15693, ISO 18000-3, NFC Type V	EPC C1G2, ISO 18000-6C, RAIN			
Options	Custom programming on request	Can be upgraded to Sentry Pro version resisting over 1.000 Autoclave cycles incl. high-temperature adhesive sticker (end of P/N changes from -0Cx0 to -ACx0). Other specs remain the same. Tags come by default with HID standard label except e-module, FIT, 06D and Instrument tags. Custom labelling and/or programming on request. (PN changes from -0Cx0 to -0Cx1).			
Quantity Per Box	2000 pcs.	150 pcs.	100 pcs.	150 pcs.	
Warranty	2 Years				

Supports GEN2X NFC RAIN CE UKCA

	Sentry PCB Tag					
	Sentry Slim	**Sentry 06D**	**Sentry 1005**	**Sentry 2607**	**Sentry MidRange**	**Sentry Instrument**
						
Base Model Number	AST1-162-0C10 (EU) AST1-162-0C00 (US)	AST1-143-0C10 (EU) AST1-143-0C00 (US)	AST1-140-0C10 (EU) AST1-140-0C00 (US)	AST1-154-0C10 (EU) AST1-154-0C00 (US)	AST1-174-0C10 (EU) AST1-174-0C00 (US) (bare tag, see EXO Pro for housed version)	**28mm:** AST1-137-0C10 (EU); AST1-137-0C00 (US) **15mm:** AST1-167-0C10 (EU); AST1-167-0C00 (US) **11mm:** AST1-171-0C10 (EU); AST1-171-0C00 (US)
	ELECTRONIC					
Operating Frequency	(EU) - 865-868 MHZ (ETSI) / (US) - 902-928 MHZ (FCC)					
Chip Type	M850					
Memory	96 bit EPC 32 bits UM					
Anti-collision	Yes					
Reading Distance	20 ft (6 m)	5 ft (1.5 m)	9 ft (2.7 m)	7 ft (2 m)	33 ft (10 m)	up to 8 ft (2.4 m)
	PHYSICAL					
Dimensions	1.43 × 0.43 × 0.11 in (36.3 × 10.9 × 2.8 mm)	Ø 0.24 in (6 mm)	0.39 × 0.20 × 0.12 in (10 × 5 × 4 mm)	1.02 × 0.28 × 0.06 in (26 × 7 × 1.5 mm)	1.52 × 0.67 × 0.22 in (38.6 × 17 × 5.6 mm)	1.10 or 0.59 or 0.43 × 0.07 × 0.05 in (28 or 15 or 11 × 1.8 × 1.4 mm)
Mounting Method	Adhesive sticker	Epoxy		Adhesive sticker		Epoxy
Affixes to	Metal surfaces					
Housing Material	PCB					
Color	Black (with White Label)	Black	Black (with White Label)			Black
Weight	0.06 oz (1.6 g)	0.02 oz (0.5 g)	0.03 oz (1 g)		0.22 oz (6.4 g)	28mm : 0.014 oz (0.4 g) 15mm : 0.010 oz (0.3 g) 11mm : 0.007 oz (0.2 g)
	CHEMICAL AND MECHANICAL RESISTANCE					
Water	IP68, 68° F (20° C), 1 m × 24 h					
Withstands Exposure To	Dilute mineral acids, dilute alkali solutions (<20%), alcohols, petroleum, salt mist, vegetable oil, hydraulic fluid and most industrial cleaning agents					
Environmental Test Conditions	68° F (20° C), 100 h					
Vibration & Shock	IEC 68.2.6 / IEC 60068-2-27:2008					
Impact	18 in (46cm) drop with 1 in (2.54 cm) diameter steel ball					
	THERMAL					
Storage	-58° to 185° F (-50° to 85° C)					
Operating	-58° to 185° F (-50° to 85° C)					
Shock/Fatigue	-40° to +212° F (-40° to +100° C) , 10 x 1h with 10 sec transition					
Autoclave	Sentry Pro tags resist over 1.000 standard autoclave cycles up to 280°F (138°C), including elevated pressure and steam. Further upgrade to polyimid substrate possible on request increasing max. temperature to 464 °F (240°C).					
Peak Temperature	365° F (185° C), 3 h					
	OTHER					
Standards	IEPC C1G2, ISO 18000-6C, RAIN					
Options	Can be upgraded to Sentry Pro version resisting over 1.000 Autoclave cycles incl. high-temperature adhesive sticker (end of P/N changes from -0Cx0 to -ACx0). Other specs remain the same. Tags come by default with HID standard label except e-module, FIT, 06D and Instrument tags. Custom labelling and/or programming on request. (PN changes from -0Cx0 to -0Cx1).					
Quantity Per Box	150 pcs.	300 pcs.	100 pcs.	150 pcs.	100 pcs.	200 pcs.
Warranty	2 Years					

Supports GEN2X

RAIN

CE

UK CA



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