Sense Passive

Innovative range of battery-less ceramic hard tags and labels for monitoring temperature and presence of moisture.



The HID Sense 'passive' tags Family sit alongside their 'active' cousins in the HID Sense IoT range that provide low-powered, long-range tracking and sensing via Bluetooth, LoRaWAN and Quuppa. This game changing range of small form factor ceramic tags and self-adhesive labels alongside the Adept Slim tag can accurately measure temperature, fill level* and moisture content without batteries and in small form factor easy to apply formats that make condition monitoring quicker and more cost effective than ever before.

The new passive Sense range includes ceramic tags and printable (pre-printed from Service Bureau) on-metal and off-metal self-adhesive labels which can accurately read live temperatures as low as -40°C and up to 125°C, detect the presence of moisture and indicate the volume of liquids* in containers.

The HID Sense 'passive' tags family includes the Adept Slim Sense Temp tag, designed to monitor temperature with precision using the advanced Asygn AS3213T chip. Like the other tags in the range, Adept Slim provides battery-less sensing and is optimized for both on-metal and off-metal use, with a form factor built for rugged environments.

The battery-less devices do not require maintenance and are ideal for monitoring the condition of assets in transit and storage in a broad range of industrial, IT and healthcare environments.

The new Sense passive devices serve a broad range of use cases including monitoring the volume of liquids in glass vials for vaccine management systems,* monitoring the temperature of machine components to enable predictive maintenance or optimize their utilization; cold chain management of foods and pharmaceuticals and monitoring the moisture levels and temperature of servers in data centers.

The wireless devices accurately measure temperature to a tolerance down to 0.5°C and offer read ranges between 1.75m and 5m, making them ideal for use in hazardous industrial environments where thermocouples would traditionally be used to monitor the current temperature of assets. Alternative chip options to measure Strain, pressure, light, magnetic fields etc. available on request.



KEY BENEFITS:

- **Various form factors –** from tiny embeddable ceramic tags to easy to apply peel and stick labels in a range of sizes
- **Highly cost effective –** and simple to install condition monitoring solution
- **On metal and off metal –** variants available

*Customization option for fill level

DATASHEET

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KEY TECHNOLOGY HIGHLIGHTS:

- Temperature and moisture monitoring,
- Sensor options for strain, pressure and other parameters on request
- High performance from small ceramic tag or low profile labels with read range up to 5m

RAIN (UHF)

- Enables long life, maintenance-free sensing

TYPICAL APPLICATION AREAS:

- Temperature monitoring in data centers
- Moisture monitoring in manufacturing production lines
- Monitoring temperature of vaccine vials and drug containers in the medical industry
- Moisture monitoring in adult and infant diapers
- Engine production or optimization

	Sense Passive					
	FIT 500 HT	**IQ 175**	**IQ 430**	**IQ 200P**	**IQ 550P**	**Adept Slim Sense**
						
Base Model Number	CP14730 (EU) CP14731 (US)	CP15470 (EU) CP15469 (US)	CP15542 (EU) CP15545 (US)	CP15457 (EU) CP15456 (US)	CP15528	6P1911 (EU) 6P1912 (US)
	ELECTRONIC					
Operating Frequency	(EU) - 865-868 MHz (ETSI) / (US) - 902-928 MHz (FCC)				865-928 MHz (Global)	(EU) - 865-868 MHZ (ETSI) / (US) - 902-928 MHZ (FCC)
Chip Type	M3D					ASYGN AS3213T
Memory	128 bit EPC + 64 bit TID + 128 bits user memory					192 bit EPC + 48 bit TID + 32 bits user memory
Anti-Collision	Yes					
Reading Distance 2 W reader ERP, free space	Up to 16.4 ft (5 m)	Up to 4.9 ft (1.5 m)	Up to 14.1 ft (4.3 m)	Up to 7.2 ft (2.2 m)	Up to 19 ft (5.8 m)	Up to 8.2 ft (2.5 m)
	PHYSICAL					
Dimensions	0.53 x 0.35 x 0.16 in (13.5 x 9 x 4.3 mm)	1.96 x 0.49 x 0.05 in (50 x 12.5 x 1.4 mm)	EU: 4.48 x 0.94 x 0.05 in (114 x 24 x 1.3 mm) US: 4.27 x 0.94 x 0.05 in (108.5 x 24 x 1.3 mm)	Ø 1.61 in (Ø 41 mm)	4.09 x 0.94 x 0.01 in (104 x 24 x 0.3 mm)	3.27 x 0.98 x 0.25 in (83 x 25 x 6.3 mm)
Mounting Method	Adhesive sticker (rated up to 85°C)	Self-adhesive, suitable for curved surfaces to a minimum radius of 58mm				Rivet, Screw and Cable tie
Affixes To	Metal surfaces			Non-metallic surfaces		Metal surfaces
Housing Material	Ceramic painted	Synthetic label				Santoprene
Color	Black	White				Blue
Weight	0.09 oz (2.76 g)	0.02 oz (0.46 g)	0.06 oz (1.66 g)	0.01 oz (0.33 g)	0.02 oz (0.65 g)	0.32 oz (9 g)
	SENSOR					
Temperature Sensor Accuracy	±0.5°C at 30°C to 60°C, 2°C at -40°C to 125°C					±0.1°C at -40°C to 0°C ±0.3°C at 0°C to 125°C
	CHEMICAL AND MECHANICAL RESISTANCE					
Water	IP68, 68° F (20° C), 3.3 ft (1 m) x 24 h					IP67
Withstands Exposure To	Mineral oil, 10% salt water, vegetable oil, motor oil, 5% Caustic Soda	Vegetable oil, Motor oil, acetone wipe (with overlaminate)				
Environmental Test Conditions	68° F (20° C), 24 h					
Vibration & Shock	MIL-STD-810 G					
Axial / Radial Force						1000 N, 10 sec
Impact						EC62262-IK02
	THERMAL					
Storage	-40° to +257° F (-40° to +125° C)	-40° to +185° F (-40° to +85° C)				-40° to +185° F (-40° to +85° C)
Operating	-40° to +257° F (-40° to +125° C)	-40° to +185° F (-40° to +85° C)				-40° to +257° F (-40° to +125° C)
Shock/Fatigue	-40° to +185° F (-40° to +85° C), 100 x 5 min with 30 sec transition	-40° to +185° F (-40° to +85° C), 100 x 5 min with 30 sec transition				-40° to +185° F (-40° to +85° C), 100 x 5 min with 30 sec transition
Peak	392° F (200° C), 700 h	+185° F (+85° C), 700 h				+257° F (+125° C), 100 h
	OTHER					
Standards	UHF EPC Class 1 Gen 2, ISO 18000-6C, RAIN					
Options	ATEX/IECEx, C1D1	Personalization on demand				Laser engraving, printed logo, encoding, labeling
Box Size	4200 pcs.	900 pcs/roll	500 pcs/roll	2000 pcs/roll	3000 pcs/roll	160 pcs.
Warranty	2 Years					

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