RAIN® RFID (UHF): 860 MHz to 960 MHz

Global EPC Class-1 Generation-2 (C1 G2) UHF RFID protocol for communications. Compliant with ISO/IEC 18000-6C and other standards.

A tag for every application

HID can create a custom tag solution to fit your application requirements for chip type, dimensions, programming and materials. You can even embed multiple technologies in a single RFID tag, providing transition paths that connect legacy systems with new roll-outs.

	Discs					Specialty										
Product family	**Bin Tag**	**Epoxy Tag**	**In Tag**	**Embeddable RFID**		**Adept Tag**	**FIT Tag**	**IQ Pro Labels**			**EXO Slim Tag**			**EXO Tag**		**EXO Pro Tag**
Sub-family	UHF	UHF	500	Logi Tag 180	MuTRAK	UHF	Ceramic UHF	800P HT	Standard	Ultra	InLine Plate	Standard	Shell+	Standard	Mini	UHF
Description	Screw or embed into standard waste collection bins	Thin, rigid, surface-printable rectangle. Can withstand plastic injection molding	Versatile disc-shaped RFID tags designed to perform in the toughest conditions.	Highly robust near-field UHF coin for embedding. Withstands high temperatures, liquids and impact.	UHF ultra-small and robust transponders, ideal to identify small items.	High-performance RAIN RFID tags optimized for specific industrial purposes	Micro-sized transponders for tracking small metal assets	Impermeable, wafer-thin sheets, resistant to high heat and torsion. Shape customizable	Highly chemical resistant and thus ideal for plastic returnable transport items.	Optimized for non-metallic flat or slightly curved surfaces. Its special construction ensures a higher durability.	Thin, rigid container tags with large surface to accommodate laser engraving or labels	Wafer-thin UHF asset tags for containers or non-metallic boxes	Low-profile RFID tags ideal for light duty indoor assets tracking. SHELL+ tags are ultrasonic sealed with a plastic back side.	High performance, general purpose transponders. Mount via glue, screw or weld	Small, robust, general purpose transponders	Highly robust, all-purpose RAIN RFID tags mount to any surface material deliver long read ranges
Chip type	M730	Monza R6-P	G2iM	Monza R6-P	M730	UCODE 8, Monza 4QT, M730, Higgs 3, Monza R6-P, Qstar-2A	Monza R6-P	M730		Monza R6-P	Monza 4E or EM4423 (UHF/NFC)	M730	Monza R6-P, UCODE 8	Monza 4QT, M730	Monza R6	M730, M750, MR6-P, M4QT
EPC | TID	128 bit | 48 bit	96 bit | 48 bit	256 bit | 96 bit	96 bit | 48 bit	128 bit | 48 bit	128 bit | 48 bit	96 bit | 48 bit	128 bit | 48 bit		128 bit | 96 bit	496 bit | 96 bit | 1920 bit	128 bit | 48 bit	96 bit | 48 bit	128 bit | 96 bit	96 bit | 48 bit	128 bit | 48 bit
User memory up to		64 bit	640 bit	64 bit		512 bit	64 bit			32/64 bit	N/A		64 bit	512 bit		
Reading distance up to	39.3 ft (12 m)	20 ft (6 m)	10 ft (3 m)	10 in (25 cm)	3.9 in (10 cm)	27.9 ft (8.5 m)	13.1 ft (4.0 m)	39.3 ft (12 m)	49.2 ft (15 m)	32.8 ft (10 m)	25 ft (7.5 m) or 13 ft (4 m)	36 ft (11 m)	34.7 ft (10.6 m)	108.2 ft (33 m)	9.8 ft (3 m)	36 ft (11 m)
Other frequencies	LF, HF	LF, HF	LF, HF	LF, HF			LF, HF				HF					UHF-NFC
Dimensions Refer to datasheets for other available sizes	Ø 1.2 x 0.6 in (30 x 15 mm)	3.3 x 1.0 x 0.04 in (83 x 25 x 1 mm)	Ø 1.97 x 0.14 in (Ø 50 x 3.5 mm)	Ø 0.7 x 0.1 in (18 x 3 mm)	0.27 x 0.27 in (7 x 7 mm)	max. 5.4 x 1.9 x 0.2 in (136.5 x 48 x 5.5 mm)	max. 0.5 x 0.3 x 0.1 in (13.1 x 7.8 x 3.1 mm)	3.3 x 2.2 x 0.02 in (85 x 55 x 0.5 mm)	max. 3.7 x 0.8 in (95 x 21 mm)	2 x 0.9 x 0.02 in (50 x 24 x 0.5 mm)	4.7 x 2.7 x 0.2 in (120 x 68 x 4 mm)	max. 4.1 x 1.4 x 0.14 in (105 x 36 x 3.5 mm)	max. 4.84 x 1.29 x 0.26 in (123 x 33 x 6.8 mm)	Standard: 3.8 x 1.0 x 0.6 in (97 x 27 x 15 mm) Max: 6.8 x 2.7 x 0.7 in (174 x 70 x 17.8 mm)	2.4 x 0.7 x 0.3 in (60 x 18 x 8 mm)	max. 4.33 x 0.98 x 0.51 in (110 x 25 x 12.85 mm)
Mount on metal		Yes				Yes	Yes					Yes		Yes		Yes
Moisture resistance	IP67	IP68, IP69K	IP69K	IP68		IP68, IP54	IP68	IP68			IP68, IP69K	IP68		IP68, IP69K		IP68, IP69K
Food compatible		Yes														
Operating temperature	-40 to +185 F (-40 to +85 C)	-40° to +185° F (-40 to +85° C)	-40° to +185° F (-40 to +85° C)	-40° to +185° F (-40 to +85° C)		-4° to +185° F (-20° to +85° C)	-4° to +185° F (-20 to +85° C)	-40° to +185° F (-40 to +85° C)		-22° to +176° F (-30° to +80° C)	-40° to +185° F (-40 to +85° C)	-4° to +185° F (-20° to +85° C)	-22° to +149° F (-30° to +65° C)	-40° to +185° F (-40 to +85° C)		-40° to +185° F (-40° to +85° C)
Peak temperature to	194° F (90° C)	284° F (140° C)	284° F (140° C)	184° F (140° C)	392° F (200° C)	185° F (85° C)	437°F (225°C)	446° F (230° C)	392° F (200° C)	212° F (100° C)	185° F (85° C)	185° F (85° C)				185° F (85° C)
Flame resistant		Yes						Yes								
Compliant with EPC C1 G2, ISO 18000-6C and others listed	DIN 30745	ISO/IEC 18000-6C, RAIN	ISO 4892-2 ISO 18000-6C IEC 68.2.6 IEC 68.2.29 UL94-HB ATEX / IECEx	IEC 62262-IK07		MIL STD 810-G, ISO 18000-6C, ISO 17364, DIN 40050-9	ISO 18000-6C			ISO 18000-6C, RAIN	IEC 62262-IK06 ISO 17364, ISO 18000-63	MIL-STD-810 G, 1 kg Steel, 1m		DIN 40050-9 IEC 62262-IK09 ISO 17364	DIN 40050-9 IEC 62262-IK07 ISO 17364	ISO 17364, DIN 40050-9, IEC 62262-IK08 (InLine)

RAIN® RFID (UHF): 860 MHz to 960 MHz

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Specialty

	IronTag®		ISO Card	EXO Keg Tag	LinTRAK®	Seal Tag vTamper		Seal Tag edTamper		SlimFlex™ Tag	Ear Tag	IQ On Metal Labels	IQ Labels	Sense Passive		Sentry Tag	
Sub-family	176	206 / 206F	UHF	UHF	UHF	UHF	89/56/35	UHF		Standard / Mini	UHF	UHF	UHF	FIT 500 HT	IQ	PCB	Cable
Description	High-temperature and flame resistant tags. Enable tracking of metal assets in harsh environments		Standard ISO cards, configurable to any application requirements, including multiple frequencies	Curved to fit metal kegs and gas cylinders. Mount via welding	Sewn, hemmed or heat-sealed into linens, withstands rigors of commercial laundry cycles	Flexible units with built-in visually tamper evident cable tie		Digitally tamper evident seals report status via RFID when seal is broken		Flexible, rugged transponders deliver versatile mounting options	Reusable RAIN RFID management ear tag for cattle or industrial applications	Thin, printable self-adhesive labels for on-metal use	UHF inlays and labels in various form factors, material and chip options	Innovative range of battery-less ceramic tags and labels for monitoring temperature and presence of moisture.		Highly configurable, PCB based RFID tags with exceptional Size-to-Performance Ratio	Specialized tag for tracking cable assemblies with optimum RFID performance
ELECTRONIC																	
Chip type	Higgs 3	Monza X	Monza 4QT	Monza 4QT, Monza R6	Monza M5, Monza R6-P	Higgs 3, M70	Higgs 4	UCODE G2iM+	EM | AURA	Higgs 3, M70	Monza M5	UCODE 8, M730, Monza R6-P	M730, UCODE 9	M3D		M750	M750
EPC | TID	96 bit | 64 bit	128 bit | 96 bit	128 bit | 96 bit	128 bit | 96 bit	128 bit | 96 bit	96 bit | 48 bit	128 bit | 64 bit	256 bit | 96 bit	416 bit | 48 bit	96 bit | 64 bit	128 bit	128 bit	128 bit | 96 bit	128 bit | 64 bit		96 bit	96 bit
User memory up to	512 bit	8192 bit	512 bit	512 bit	32/64 bit	512 bit	128 bit	112 bit	2 kbit	512 bit	N/A	64 bit				128 bit	
Reading distance up to	13 ft (4 m)	8 ft (2.5 m)	39 ft (12 m)	29 ft (9 m)	16 ft (5 m)	20 ft (6 m)	32.8 ft (10 m)	6.5 ft (2 m)	13.1 ft (4 m)	20 ft (6 m)	23 ft (7 m)	43.3 ft (13.2 m)	46 ft (14 m)	16.4 ft (5 m)	19 ft (5.8 m)	33 ft. (10m)	20 ft (6 m)
Other frequencies			LF, HF	UHF-NFC		HF				HF		HF				HF	
ELECTRONIC																	
Dimensions Refer to datasheets for other available sizes	2.0 × 0.9 × 0.3 in (53 × 23 × 7 mm)	1.3 × 1.2 × 0.24 in (33.7 × 31.1 × 6.1 mm)	3.4 × 2.1 × 0.03 in (85.6 × 53.98 × 0.8 mm)	3.5 × 1.5 × 0.6 in (88 × 37 × 15 mm) 17.7 in (450 mm) curve radius	max. 2.6 × 0.7 in (67 × 17 mm)	max: 3.3 × 1.0 × 0.1 in (85 × 25 × 3 mm); cable tie 15.0 × 0.2 × 0.1 in (380 × 6 × 2 mm)	3.5 × 2.2 × 1.4 in (89 × 56 × 35 mm); cable tie: 17.1 × 0.4 × 0.08 in (450 × 9 × 2 mm)	1.53 × 0.55 × 0.14 in (39 × 14 × 3.6 mm); cable tie 3.07 × 0.55 × 0.14 in (78 × 14 × 3.6 mm)	Tag: 3.74 × 1.67 × 0.31 in (95 × 42.5 × 8 mm) Seal wire: 3.15 in (80 mm)	max. 4.3 × 1.0 × 0.1 in (110 × 25 x3 mm)	4.6 × 3 × 0.07 in (116 × 77 × 1.7 mm)	max. 3.7 × 0.9 × 0.05 in (96 × 24 × 1.3 mm)	max. 3.74 × 0.83 in (95 × 21 mm)	0.53 × 0.35 × 0.16 in (13.5 × 9 × 4.3 mm)	max. 4.48 × 0.94 × 0.05 in (114 × 24 × 1.3 mm)	max. 1.52 × 0.67 × 0.22 in (38.6 × 17 × 5.6 mm)	1.43 × 0.43 × 0.11 in (36.3 × 10.9 × 2.8 mm)
Mount on metal	Yes			Yes			Yes	Yes			Yes			Yes		Yes	
Moisture resistance	IP68, IP69K	IP68, IP69K	IP68	IP68	IP68	IP68				IP68	IP69K, IP68	IP68	IP67, IP68	IP68		IP68	
Food compatible	Yes																
THERMAL																	
Operating temperature	-40° to +185° F (-40 to +85° C)		-40° to +158° F (-40 to +70° C)	-40° to +185° F (-40 to +85° C)	-40° to +185° F (-40 to +85° C)	-40° to +158° F (-40 to +70° C)		-40° to +158° F (-40 to +70° C)			-40° to +185° F (-40 to +85° C)	-40° to +185° F (-40 to +85° C)	-40° to +185° F (-40 to +85° C)	-40° to +257° F (-40° to +125° C)	-40° to +185° F (-40° to +85° C)		-58° to 185° F (-50° to 85° C)
Peak temperature to	356° F (180° C)	428° F (220° C)	176° F (80° C)	185° F (85° C)	428°F (220°C)	158° F (70° C)		158° F (70° C)	212° F (100° C)		185°F (85°C)	185°F (85°C)	185°F (85°C)	392° F (200° C)	185° F (85° C)		365° F (185° C)
Flame resistant	Yes							Yes									
ELECTRONIC																	
Compliant with EPC C1 G2, ISO 18000-6C and others listed	ATA Spec 2000 DIN 40050-9 IEC 62262-IK07 GS1 EPC TDS 1.6 SAE AS5678		ISO 10373 ISO 7816-1	IEC 62262-IK08/IK07 ISO 17364	OEKO-TEX® Standard 100 Level 1, MRI Compliant	IEC 62262-IK06	IEC 62262-IK08	ATA Spec 2000 DIN 40050-9 GS1 EPC TDS 1.6 SAE AS5678	IEC 62262-IK06, UHF EPC Class 1 Gen 2, ISO 18000-6C		IEC 62262-IK06	IEC 62262-IK08, EPC Gen2, ISO/IEC 18000-6C			MIL-STD-810 G		1 kg steel, 45 cm

Part of ASSA ABLOY

RAIN® RFID (UHF): 860 MHz to 960 MHz / NFC*

Global EPC Class-1 Generation-2 (C1 G2), ISO/IEC 18000-6C, NFC and other standards.
Both technologies share the same chip.

NFC / UHF Combo

RAIN® RFID / NFC combo tags extend the potential applications by combining the best of both worlds. Long-distance logistic applications in the warehouse, and simple user interaction via mobile phone at the consumer / recipient side.

A tag for every application

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	Specialty	
Product family	**EXO Keg Tag**	**EXO Pro Tag**
Sub-family	UHF / NFC	InLine Combo
Description	Curved to fit metal kegs and gas cylinders. Mount via welding	High performance, general purpose transponders. Mount via glue, screw or weld
ELECTRONIC		
Chip type	Monza R6 P + ICODE SLIX2	
User memory up to	128 bit EPC | 96 bit TID + 2560 bit ICODE SLIX2	
Reading distance	32.8 ft (10 m)	
Other frequencies	UHF	
PHYSICAL		
Dimensions Refer to datasheets for other available sizes	3.5 × 1.4 × 0.6 in (88 × 37 × 15 mm)	3.8 × 1.0 × 0.6 in (97 × 27 × 15 mm)
Mount on metal	Yes	Yes
Moisture resistance	IP69K	IP68, IP69K
Food compatible		
THERMAL		
Operating temperature	-40° to +185° F (-40° to 85° C)	
Peak temperature to		185° F (85° C)
Flame resistant		
STANDARDS		
Compliant with ISO 18000-3 and others listed	ISO/IEC 18000-6C ISO 18000-63 Compliant EPCglobal Gen2v2	DIN 40050-9 IEC 62262-IK09 to IK07 ISO 17364

* To be NFC Forum Tag Type compliant, tags need to be formatted with an NDEF data structure.

HF: 13.56 MHz / ISO 15693 / NFC*

Compliant with ISO/IEC 18000-3 and other standards.

Enhanced Security Potential with HID Trusted Tag® Services

Tags equipped with HID Trusted Tag integrated chips are uniquely programmed to enhance security and efficiency when deployed with HID Trusted Tag® Services. Our cloud-based NFC authentication platform adds unique identities to everyday objects enabling more secure, efficient transactions. Simply tap an embedded or attached HID Trusted Tag with any NFC device. Trusted Tag Services deliver a frictionless authentication experience for "proof-of-presence" applications, including time-and-attendance, brand protection, promotional marketing and Internet of Things programs.

	Discs							Embeddable						Specialty		
Product family	Bin Tag	IN Tag™		LogiTag®		BluTAG	Poly Tag™	FIT Brick Tag	Embeddable RFID	Glass Tag		Sentry PCB Tag		Seal Tag	SlimFlex™ Tag	
Sub-family	HF	HF		081/121	161/162	HF	HF	Vigo	Piccolino	Vigo	ICODE SLIX2	e-Module	ARIO XS-SM	HF	200	OM
Description	Screw or embed into standard waste collection bins	Ruggedized discs for severe industrial environments		Small, thin discs with high chemical and pressure resistance. Optional button format		Identification and tracking of textile products in industrial environments	Extreme-impact resistant discs	Micro-sized transponders for embedding into assets	Tiny, water resistant embeddable RFID disc	Compact embeddable capsules, resistant to long term immersion into water or chemicals		Provide HF coils in a robust housing, to withstand the high heat manufacturing processes of special finished tags.		Visually or electrically tamper evident RFID seals	Flexible, rugged units with versatile mounting options	
ELECTRONIC																
Chip type	ICODE SLIX	ICODE SLIX2	F-Mem	Vigo, ICODE SLIX	ICODE SLIX2, F-Mem	EM4033	ICODE SLIX, TTS, NTAG 216	Vigo	ICODE SLIX2, ICODE DNA, Vigo, F-Mem	Vigo	ICODE SLIX2	ICODE SLIX	ICODE SLIX-S		ICODE SLIX	
User memory up to	896 bit	2560 bit	2 or 8 Kbyte	1024 or 2048 bit, 896 bit	2560 bit, 2 or 8 Kbyte	64 bit	896 bit	1024 bit	16 Kbit	1664 bit	2560 bit	1024 bit	2048 bit		896 bit	
Reading distance	Dependent upon reader, environment and application								Dependent upon reader, environment and application					Dependent upon reader, environment and application		
Other frequencies	LF, UHF	LF, UHF		LF			LF	LF, UHF		LF		UHF			UHF	
PHYSICAL																
Dimensions Refer to datasheets for other available sizes	Ø 1.2 × 0.6 in (30 × 15 mm)	Ø 0.8 to 2 in (20 to 50 mm) Thickness 0.1 to 0.5 in (3 to 13 mm)		Ø 0.5 × 0.1 in (12 × 2 mm)	Ø 0.6 × 0.1 in (16 × 3 mm)	Ø 0.6 × 0.1 in (15 × 2.8 mm)	Ø 1.34 × 0.31 in (Ø 34 x 8 mm)	0.4 × 0.1 × 0.1 in (10 × 3.0 × 2.6 mm)	Ø 0.23 - 0.37 in (6 - 9.5 mm)	Ø 0.08 or 0.12 in (2.1 or 3.1 mm); Length 0.4 or 0.5 in (12 or 13 mm)	Ø 0.2 x 0.9 in (Ø 4 x 22 mm)	Ø 0.57 in (14.5 mm)	0.53 x 0.55 in (13.6 x 13.9 mm)	3.3 × 1.0 × 0.1 in (85 × 25 × 3 mm); Cable tie 15.0 × 0.2 × 0.1 in (380 × 6 × 2 mm)	3.3 × 1.0 × 0.1 in (83 × 25 × 3 mm)	3.3 × 1.0 × 0.2 in (83 × 25 × 6 mm)
Mount on metal		some models												some models		Yes
Moisture resistance	IP67	IP68, IP69K		IP68			IP68, IP69K		IP67	IP 68				IP68		
Food compatible		Yes								Yes						
THERMAL																
Operating temperature	-13° to +185° F (-25° to +85° C)	-4° to +185° F (-20 to +85° C)		-40° to +194° F (-40° to +90° C)	-13° to 185° F (-25° to +85° C)		-13° to +185° F (-25° to +85° C)	-13° to +158° F (-25° to +70° C)	-40° to +185° F (-40° to 85° C)	-13 °to +185° F (-25° to +85° C)		-40° to +185° F (-40° to 85° C)			-40° to +158° F (-40 to +70° C)	
Peak temperature to	194° F (90° C)	284° F (140° C)			347° F (175° C)	428°F (220°C)				284° F (140° C)					212° F (100° C)	
Flame resistant		Yes					Yes			Yes						
STANDARDS																
Compliant with ISO 18000-3 and others listed	DIN 30745 ISO 15693 NFC Tag Type 5	ATEX EN 60079-0:2009 EN 60079-11:2007 EN 60079-26:2007 ISO 15693 NFC Tag Type 5		EN 60079-0:2009 EN 60079-11:2007 EN 50303:2001 ISO 15693 NFC Tag Type 5		ISO 15693, ISO 18000-3-1	ATEX, IECEx, ISO 15693 NFC Tag Type 5, 4, 2 (depending on chip)	ISO 15693 NFC Tag Type 5	ISO 15693 NFC Tag Type 5	ISO 15693 NFC Tag Type 5		ISO 15693 ISO 18000-3 NFC Type V			ISO 15693 NFC Tag Type 5	

* To be NFC Forum Tag Type compliant, tags need to be formatted with an NDEF data structure.

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A comprehensive reference of RFID tag variations can be found at www.rfid.com

HID
hidglobal.com

Part of ASSA ABLOY
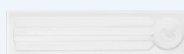
HF: 13.56 MHz / ISO 14443 / NFC*

Compliant with ISO/IEC 14443A and other standards.

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	Discs		Embeddable					Specialty			
Product family	**Embeddable RFID**	**Poly Tag™**	**IQ Labels**		**Seal Tag**	**IQ On Metal Labels**	**InLine Plate**	**Seal Tag**	**Epoxy Keyfob**	**ISO Card**	**Secure Mobile Device Sticker**
Sub-family	Clear Disc	HF	Paper Label	PET Clear	edTamper	IQ OM 5 HF	Asset Tag	eTamper Coin		MIFARE	
Description	Transparent coating resists chemical exposure, shock, vibration and thermal fluctuations	Rugged disc for outdoor applications and other harsh environments. Optional Trusted Tag Services enabled.	Custom-imprintable labels to integrate digital touch points onto physical media	Small, thin, translucent selfadhesive; hide discretely behind print media or inside product packaging.	Tamper-evident label to detect whether a product or box has been opened.	Thin, printable self-adhesive labels for on-metal use	Small on-metal asset tags utilizing HID Trusted Tag® Services for authentic proof of presence. Printable or clear housing options.	Self destructing when removed, eTamper Coin TTS adds a non-replicable identity to each interaction - ideal for "proof of presence" applications.	Customer-friendly form keeps credentials at hand; withstands rigors of daily transport in pockets or purses	Standard dimension cards enable access control, cashless payment and related applications	Printable ISO card with detachable sticker that adheres to mobile phones or metal objects for NFC applications
ELECTRONIC											
Chip type	MIFARE DESFire EV1	NTAG 216, HID Trusted Tag	NTAG 213		HID Trusted Tag	NTAG 213	HID Trusted Tag	MIFARE DESFire EV1, HID Trusted Tag	MIFARE EV1 1K, HID Trusted Tag	MIFARE DESFire EV1/ EV2, HID Trusted Tag	MIFARE DESFire EV1
User memory up to	4 KB	888 byte, 8KB	144 byte		144 byte	144 byte	8 KB				
Reading distance	Near tap		Near tap					Near tap			
Other frequencies	LF		UHF			UHF			LF	LF, UHF	
PHYSICAL											
Dimensions — Refer to datasheets for other available sizes	Ø 0.98 in (25 mm)	Ø 1.34 x 0.31 in (Ø 34 x 8 mm)	ø 1.1 in (29 mm) and ø 1.6 in (40 mm)	0.74 × 0.4 in (19 × 11 mm)	Ø 0.9 in (23 mm)	ø 1.2 x 0.03 in (30 x 0.8 mm)	1.2 × 2.5 × 0.12 in (30 × 65 × 3.5 mm)	Ø 1.5 x 0.3 in (39 x 8.5 mm)	1.2 × 1.8 × 0.06 in (30 × 45 × 1.6 mm)	3.4 × 2.1 × 0.03 in (85.6 × 54 × 0.76 mm)	ISO card 3.4 × 2.1 × 0.03 in (85.6 x 54 x 0.84 mm); sticker 1.9 × 1.0 in (48 x 25 mm)
Mount on metal		Yes				Yes	Yes	Yes			Yes
Moisture resistance		IP69K, IP68	IP67			IP68	IP68	IP65	IP67	IP68	IP68
Food compatible											
Operating temperature	-4° to +140° F (-20° to +60° C)	-13° to +185° F (-25° to +85° C)	-4° to +158° F (-20° to +70° C)				-40° to +185° F (-40° to +85° C)	-13° to +158° F (-25° to +70° C)	-13° to + 176° F (-25° to +80° C)	-31° to +122° F (-35° to +50° C)	-31° to +122° F (-35° to +50° C)
Peak temperature to									284° F (140° C)	176° F (80° C)	176° F (80° C)
Flame resistant		Yes									
Compliant with ISO 18000-3, ISO 14443A and others listed	ISO 14443 NFC Tag Type 4	NFC Tag Type 2 (NTAG 216) NFC Tag Type 4 (Trusted Tag)	ISO 14443A NFC Tag Type 2		ISO/IEC 14443A, NFC Tag Type 2	ISO 14443 NFC Tag Type 2	ISO 14443 NFC Tag Type 4			ISO 14443 NFC Tag Type 4 ISO 10373 ISO 7816-1	ISO 14443 NFC Tag Type 4

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CE NFC

Part of ASSA ABLOY

RFID TAG COMPARISON CHART

LF: 125 or 134.2 kHz

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	Discs									Embeddable				
Product family	**Bin Tag**	**Epoxy Tag**	**IN Tag™**	**identiFUEL™ Vehicle Tags**	**LogiTag®**		**Poly Tag™**	**Volcano Tag**	**World Tag®**	**FIT Brick Tag**	**Embeddable RFID**	**Glass Tag**	**Nail Tag**	**Plug Tag**
Sub-family	LF	LF	LF		120	160	LF			HDX, Nova	LF	LF		
Description	Screw or embed into standard waste collection bins	Thin, rigid, discs can withstand plastic injection molding	Ruggedized discs for severe industrial environments	Small, tamper proof tags for unique identification of vehicles towards Fuel Managment Systems (FMS)	Small, thin discs with high chemical and pressure resistance		Low frequency disc shaped tags with extreme impact resistance	For high temperature environments	Cost-effective, general use indoor asset tags	Micro-sized transponders for embedding into assets	Ring and rod shaped chips and antennas for customized enclosures	Compact capsules, resistant to long term immersion. Embeddable into metal or plastic	Glass-fiber nails pound into wood and pallets	Plastic inserts for permanent mounting to waste and other containers
ELECTRONIC														
Chip type	Unique; FDX-B BDE; HDX BDE	HITAG S; Unique	HITAG S; Unique	HITAG S	HITAG S; Q5; Unique	Unique	Unique	Q5; Unique	HITAG S; Q5; Titan; Unique	HDX, Nova	EM4305, HITAG S, Q5, Unique	EM4305, HDX, HITAG S, Q5, Unique	FDX-B BDE	Unique; FDX-b
User memory up to	128 bit	2048 bit	2048 bit	256 bit	2048 bit	64 bit	64 bit	264 bit	2048 bit	160 bit	2048 bit	2048 bit	128 bit	128 bit
Reading distance	Dependent upon reader, environment and application									Dependent upon reader, environment and application				
Other frequencies	HF, UHF	UHF	HF. UHF		HF		HF			HF, UHF	HF	HF		
PHYSICAL														
Dimensions Refer to datasheets for other available sizes	Ø 1.2 x 0.6 in (30 × 15 mm)	Ø 0.8 or 1.18 x 0.04 in (20 or 30 x 1 mm)	Ø 0.8 to 2.0 in (20 to 50 mm); thickness 0.1 in (3 mm)	0.98 × 1.0 x 0.44 in (25 × 25.8 × 11.2 mm)	Ø 0.5 × 0.1 in (12 x 2 mm)	Ø 0.6 × 0.1 in (16 x 3 mm)	Ø 1.3 x 0.3 in (34 x 8 mm)	Ø 1.0 x 0.2 in (26 x 4 mm)	Ø 0.8 to 2.0 in (20 to 50 mm); thickness 0.1 in (2 mm)	0.5 × 0.2 × 0.1 in (12 × 6 × 3 mm)	Multiple	Ø 0.05 to 0.2 in (1.2 to 4 mm); length 0.3 to 0.9 in (8 to 23 mm)	Ø 0.16 × 1.40 in (4 × 35.5 mm)	Ø 0.35 x 0.75 in (9 x 19 mm); cap Ø 0.6 in (15 mm)
Mount on metal	Yes									Yes				Yes
Moisture resistance	IP67	IP67	IP68, IP69K	IP67	IP68		IP68, IP69K	IP68		IP 68		IP68	IP67	IP68
Food compatible		Yes									Customize to meet requirements			
THERMAL														
Operating temperature	-40° to +158° F (-40 to +70° C)	-40° to +185° F (-40° to +85° C)	-40° to +194° F (-40° to +90° C)	-13° to +140° F (-25° to +60° C)	-13° to 185° F (-25° to +85° C)	-40 °to +185° F (-40° to +85° C)	-40 °to +185° F (-40° to +85° C)	-13° to +185° F (-25° to +85° C)	-13 °to +158° F (-25° to +70° C)	-40° to +194° F (-40° to +90° C)		-40° to +185° F (-40° to +85° C)	-13° to +185° F (-25° to +85° C)	-13° to +185° F (-25° to +85° C)
Peak temperature to	194° F (90° C)	284° F (140° C)	284° F (140° C)		320° F (160° C)		212° F (100° C)	392° F (+200° C)	212° F (100° C)	284° F (140° C)		284° F (140° C)		
Flame resistant		Yes					Yes					Yes		
STANDARDS														
Compliant with standards listed	DIN 30745 EN 14803		ATEX, IECEx EN 60079-0:2009 EN 60079-11:2007 EN 60079-26:2007	ATEX, IECEx EN 60079-0:2009 EN 60079-11:2007 EN 60079-26:2007			IEC 62262-IK07, UL 94 HB							EN 14803

CE

HID

BLE: Bluetooth Smart - 2.4 GHz

Advanced BLE beacons with sensor technology and multi-protocol support

BEEKs™ Bluetooth Low-Energy (BLE) beacons are among the most advanced beacons in the industry. Being fully Apple iBeacon and Google Eddystone compatible, BEEKs beacons may be used for any standard beacon application that provides location based promotional services to smartphone users. When combined with HID Global's end-to-end IoT Services ecosystem, that includes BluFi™ BLE to WiFi gateways and the Bluzone™ cloud services, BEEKs can be centrally managed through the cloud to transfer messages, firmware updates and status information remotely. Their unique design allows BEEKs to broadcast reliably even in densely populated WiFi environments.

	Beacons										Gateways		
Product family	BEEKs™										BluFi™		
Sub-family	Plus	Lite	LR	Mini	CM v2/Industrial	LR Industrial	Badge	Duress Badge Holder	Keyfob	Wristband	AC (US/EU/UK/AU)	DC (Battery)	DC (Plenum)
Description	BLE beacon without sensors to be used for Proximity Marketing, way-finding and/or real-time location (RTLS).		BEEKs LR beacon features a high-gain directional antenna that is especially useful for wayfinding applications	Tiny BLE beacon to support real-time location (RTLS).	Rugged BLE condition monitoring beacon with embedded sensors to measure temperature and vibration of motorized equipment in manufacturing, coolers, escalators etc.		Beacon badge that can be optionally combined with passive RFID for access control. Typically used for optimizing office utilization or mustering.	BLE badge holder, into which a horizontally printed (RFID) ISO card can be inserted. Includes call button on the back that can raise an alert in the Bluzone console when in vicinity of a connected BluFi.	BEEKs Keyfob provides an audible alert in addition to the LED and may be used either for duress applications or for physical distancing "aware" applications.	BLE beacon that is worn around the wrist, like a watch to identify patients and supports real-time location applications.	BluFi acts as gateway between BLE beacons and existing WiFi networks to enable cloud based remote management, location and beacon data collection. This model plugs into any standard A/C outlet and features an omnidirectional antenna.	BluFi acts as gateway between BLE beacons and existing WiFi networks to enable cloud based remote management, location and beacon data collection. This model features a rechargeable battery and directional antenna. Optional outdoor housing with solar panel available.	BluFi DC Plenum is a flame resistant, low-voltage DC powered version that is designed to be installed on walls, ceilings or in the plenum, with an optional mounting kit.
Bluetooth standard	Bluetooth Low Energy (BLE) 4.2			Bluetooth Low Energy 5.0	Bluetooth Low Energy (BLE) 4.2					Bluetooth Low Energy (BLE) 5.0	Bluetooth Low Energy (BLE) 4.2 / WiFi: 802.11 b/g/n		
Frequency Band	2400-2483.5 MHz										2400-2483.5 MHz (40 channels)		
Processor Type	ARM Cortex M3 and ARM Cortex M0		ARM Cortex M3	ARC® EM4	ARM Cortex M3 and ARM Cortex M0					ARC® EM4 32 bit 24 MHz	ARM Cortex M4 and ARM Cortex M3		
Memory	55KB Flash			128KB Flash	55KB Flash				128 KB Flash	128KB	256KB Flash (100KB free for custom applications)		
BLE Application	Eddystone, iBeacon, sBeacon									sBeacon	Eddystone, iBeacon, sBeacon, WiFi		
Battery Life	Up to 8 year battery life									RTLS mode (Asset Tracking), advertisement every 500ms: 30 days	100-240V AC, 50/60 Hz	up to 24h	N/A
Dimensions	2.41 x 1.46 in (61.3 x 37.2 mm)	2.36 in x 0.83 x 0.98 in (60 × 21 x 25 mm)	2.48 in x 2.36 x 0.86 in (63 × 60 x 22 mm)	1.2 in x 0.4 in (30 x 10 mm)	2.36 in x 0.83 x 0.98 in (60 × 21 x 25 mm)	2.48 x 2.36 x 0.86 in (63 × 60 x 22 mm)	2.14 × 3.39 in (54 × 86 mm)	2.5 in x 3.5 in x 0.19 in (64 mm × 89 mm x 5 mm)	2.79 in × 1.67 in x 0.57 in (71 mm × 43 mm x 15 mm)	1.5 in × 11.8 in x 0.4 in (39 × 300 x 10 mm)	2 × 1.5 x 1.5 in (50 × 38 x 38 mm)	3.4 X 3.2 X 1.2 in (86.1 X 82.2 X 31.8 mm)	
Affixation	3M VHB adhesive sticker or Epoxy glue						Clip				A/C power plug	Micro USB	USB Type A
Weight	2.7 oz (76 g)	1 oz (28 g)	3.3 oz (93.5 g)	0.24 oz (7 g)	max. 1.37 oz (39 g)	3.3 oz (93.5 g)	0.5 oz (14 g)	0.85 oz (24 g)	1.3 oz (37 g)	0.3 oz (9 g)	1.7 oz (48 g)	9.3 oz (264 gr)	4.13 oz (117 g)
Water	IP65		IP67		IP65 and IP67	IP67		IP65		IP67			
Operating temperature	-13° to +170° F (-25° to +77° C)		-22° to +170° F (-30° to +77° C)	-4° to +140° F (-20° to +60° C)	-13° F to +185° F (-25° C to +85° C)	-22° to +170° F (-30° to +77° C)	-4°F to +138°F (-20°C to +59°C)	-22° to +158° F (-30° to +70° C)		-4° to +140° F (-20° to +60° C)	-13° to +149° F (-25° to +65° C)	-4° to +158° F (-20° to +70° C)	
Withstands Exposure To	Water and UV Resistant									Water resistant		Flame UL-2043	
Compliant with	FCC / CE	FCC / CE / JRF / IC	FCC / CE	FCC	FCC / CE / JRF / IC	FCC / CE	FCC / CE		FCC / CE / IC / MIC	FCC	FCC/CE/UL/FRE; BLE; Wifi 2.4 GHz	FCC/CE; BLE; Wifi 2.4 GHz	

*Battery life is dependent on device configuration, such as broadcast power and transmission rate. This estimate is based upon typical beacon configuration and use-cases. This estimate is subject to increase or decrease based on specific usage needs.