Embeddable RFID

Low, high and ultrahigh-frequency transponders for enclosure into virtually any form factor



Embeddable RFID transponders allow manufacturers to integrate HID Global electronic components seamlessly into tag designs optimized for any application.

Leveraging HID experience, manufacturers and integrators can combine their specialized market expertise to deliver optimized tagging solutions for custom automation applications. Manufacturers can save the time and expense of electronics design and production, and better focus resources on providing customer solutions.

With a variety of integrated chips, HID offers a range of Embeddable RFID components various operating frequencies, and form factors for incorporation into finished tagging solutions.

Choose from:

- **E-Unit Disc transponders –** low frequency HID coils and chips, ideal for keyfobs and similar simple applications.
- **Inlays & Labels -** NFC or UHF inlays or printable labels are easy to apply via glue to smart posters etc.
- **MuTRAK™ -** UHF ultra-small and robust transponders, ideal to identify small items.
- **Clear Disc transponders –** low and high frequency electronics sealed in a transparent plastic coating that provides resistance to chemical exposure, shock, vibration and thermal fluctuations, both during and after production.
- **Sentry Diam transponders -** high frequency coils in a robust housing, to withstand the high heat manufacturing processes of special finished tags.
- **Piccolino Tag transponders –** for space-constrained applications, our smallest disc-shaped units deliver high frequency performance and up to a 16 kbit read-write memory.

When a rod form factor suits the target housing better than a coil – E-Unit Rod transponders provide the same high-performance coil design at the heart of the HID Glass Tag family, for embedding into your preferred housing. Rod-shaped units may also be preferred when a more precisely directed radio frequency field is needed. If a standard configuration does not fulfill your needs, HID engineers can customize a transponder unit to meet your requirements.



KEY BENEFITS

- Customizable – choose a size, chip and a disc or rod to fit any custom enclosure
- Unsurpassed quality – fully automated manufacturing and innovative DBond™ technology ensure tag reliability
- Reliable operation – built to withstand the rigors of tag processing, including plastic injection molding

TECHNOLOGY HIGHLIGHTS:

- A selection of housing materials to meet a variety of production process demands
- A multitude of available integrated chip options
- Embeddable in a broad spectrum of materials
- LF, HF and RAIN UHF Options

For more information, contact tagsales@hidglobal.com

	Embeddable RFID	
	Clear Disc	
	Q5	Unique
	30 mm	30 mm
		
Base Model Number	612117	601117-001
	ELECTRONIC	
Operating Frequency	125 kHz	
Chip Type	Q5	Unique
Memory	256 bit EEPROM	64 bit read-only
Anti-collision	Yes	
Reading Distance	Dependent upon reader, environment and application	
	PHYSICAL	
Outer Coil Diameter	Ø 1.18 in (30 mm)	Ø 1.18 in (30 mm)
Inner Coil Diameter	0.02 in (0.6 mm)	
Thickness	0.02 in (0.6 mm)	
Mounting Method	Embed, glue	
Housing Material	Polyethylen + Polyester (outside)	
	CHEMICAL AND MECHANICAL	
Water	Depends on finished product	
Withstands Exposure To	Depends on finished product	
Vibration	Depends on finished product	
Shock	Depends on finished product	
	THERMAL	
Storage	-4° to +140° F (-20° to +60° C)	
Operating	-4° to +140° F (-20° to +60° C)	
	OTHER	
Standards		
Box Size	2000 pcs	2000 pcs
Options	Alternative sizes and chips (e.g. HDX). See separate datasheet for inlays & labels.	
Warranty	2 Years	

APPLICATION AREAS:

- Asset tracking and logistics
- Gas bottles
- Utility lines

AUTOMATION AND MANUFACTURING

- Tool maintenance
- Process accountability

MEDICAL AND HEALTH

- Consumables
- Instruments

	Embeddable RFID												
	E-Unit Disc				E-Unit Rod	Sentry Diam	Piccolino Tag						MuTRAK
	EM4305				HITAG S HDX, EM4305	ICODE 3	ICODE SLIX2		ICODE DNA	Vigo™	F-Mem		M730
	24 mm		28 mm		15 mm , 9 mm	15 mm	7.5 mm	9.5 mm		6/9.5 mm	6/9.5 mm		7 mm
													
Base Model Number	728694 (EM4305)	684680 (EM4305)	212445	728693	201045, 6B7660 (HDX), 201047 (EM4305)	PCA-01027, 629641-012	629191-012	629190-012 629190-312 (OM)	6K3190	6B0192 (6 mm) Black 6A9190 (9mm) Clear	6C9192 (6 mm) 634190 (9mm)		TM730E01
	ELECTRONIC												
Operating Frequency	134.2 kHz					13.56 MHz							865-928 MHz (Global)
Chip Type	EM4305/HITAG S				HITAG S	ICODE 3	ICODE SLIX2		ICODE DNA	Vigo	F-Mem		M730
Memory	512 bit EEPROM (EM4305) 256 bit EEPROM(HITAG S)		256 bit EEPROM		256 bit EEPROM	2432 bit EEPROM	2560 Bit UM		2016 Bit UM	1664 bit (6 mm) 1024 bit (9 mm) EEPROM	2 kbit (6 mm) 16 kbit (9 mm) FRAM		128 bits EPC
Anti-collision			Yes										
Reading Distance	Dependent upon reader, environment and application												
	PHYSICAL												
Outer Coil Diameter	Ø 0.93 in (Ø 23.5 mm)	Ø 1.09 in (Ø 27.8 mm)	Ø 1.08 in (Ø 27.5 mm)	Ø 1.10 in (Ø 28 mm)		Ø 0.57 in (14.5 mm)	Ø 0.30 in (Ø 7.5 mm)	Ø 0.37 in (Ø 9.5 mm)		Ø 0.23/0.37 in (Ø 6/9.5 mm)			0.27 x 0.27 in (7 x 7 mm)
Inner Coil Diameter	Ø 0.77 in (Ø 19.5 mm)	Ø 0.93 in (Ø 23.5 mm)	Ø 0.87 in (Ø 22 mm)	Ø 0.94 in (Ø 23.8 mm)		Ø 0.27 in (Ø 6.8 mm)							
Thickness	0.47 in (1.2 mm)	0.09 in (2.2 mm)	0.06 in (1.5 mm)	0.06 in (1.4 mm)	Ø 0.07 x 0.59 in (Ø 1.8 x 15 mm), 0.06 x 0.06 x 0.35 in (1.55 x 1.55 x 9 mm)	0.04 in (0.9 mm)	0.04 in (1 mm) / 0.03 in (0.8 mm) for 6 mm Piccolino						0.05 in (1.4 mm)
Mounting Method	Embed, glue												Sew into hem or pouch or heat seal under a patch for textile applications. Embed, glue for other applications.
Housing Material	Depends on finished product					Epoxy glob top	Epoxy						Epoxy
	CHEMICAL AND MECHANICAL												
Water	Depends on finished product						IP67, 68° F (20° C), 3.3 ft (1 m) x 1 h						IP68, 6.6 ft (2 m) x 24 h
Withstands Exposure To	Depends on finished product												
Vibration	Depends on finished product						IEC 68.2.6 [10 g, 10 to 2000 Hz, 3 axis, 2.5 h]						
Shock	Depends on finished product						IEC 60068-2-27:2008 [40 g, 18 ms, 6 axis, 2000 times]						
	THERMAL												
Storage	-40° to +140° F (-40° to +60° C)					-40° to +194° F (-40° to +90° C)	-40° to +185° F (-40° to 85° C), 1000 h						
Operating	-13° to +140° F (-25° to +60° C)					-40° to +185° F (-40° to 85° C)					-4° to +185° F (-20° to 85° C)		-40 °to +185° F (-40° to 85° C) Peak: Up to 392° F (200° C), 15 sec"
	OTHER												
Standards	ISO 11784, ISO 11785					ISO 15693, ISO 18000-3					ISO 15693		UHF EPC Class 1 Gen 2, ISO 18000-63
Box Size	7200 pcs	1000 pcs	5700 pcs	6000 pcs	769 pcs	2000 pcs							
Options	Alternative sizes and chips (e.g. HDX). See separate datasheet for inlays & labels.												Chip reference and date code laser-engraved on transponder housing
Warranty	2 Years												

For further information, contact **tagsales@hidglobal.com**



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