

# 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.

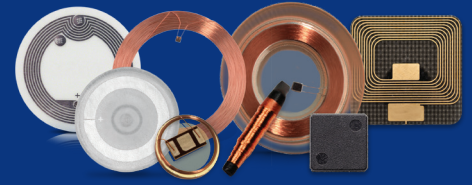
With a variety of integrated chips, HID offers a range of Embeddable RFID components various operating frequencies, and form factors for incorporation into finished tagging solutions.

## 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.

- **Logi Tag™ 180** - UHF near-field transponders, small and robust.
- **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.
- **e-Module 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](mailto:tagsales@hidglobal.com)

Embeddable RFID			
Clear Disc			
	Q5	Unique	
	30 mm	20 mm	30 mm
			
Base Model Number	612117	601116-001	601117
<b>ELECTRONIC</b>			
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		
<b>PHYSICAL</b>			
Outer Coil Diameter	Ø 1.18 in (30 mm)	Ø 0.79 in (20 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)		
<b>CHEMICAL AND MECHANICAL</b>			
Water	Depends on finished product		
Withstands Exposure To	Depends on finished product		
Vibration	Depends on finished product		
Shock	Depends on finished product		
<b>THERMAL</b>			
Storage	-4° to +140° F (-20° to +60° C)		
Operating	-4° to +140° F (-20° to +60° C)		
<b>OTHER</b>			
Standards			
Box Size	2000 pcs	5000 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															
Base Model Number	E-Unit Disc				E-Unit Rod	e-Module	ARIO XS-SM	Piccolino Tag				Logi Tag	MuTRAK		
	EM4305 / HITAG S				HITAG S	ICODE SLIX	ICODE SLIX-S	ICODE SLIX2		ICODE DNA	Vigo™	F-Mem	Monza R6-P	M730	
	24 mm		28 mm		15 mm	15 mm	13.9 mm	7.5 mm	9.5 mm		6/9.5 mm	6/9.5 mm	18 mm	7 mm	
	684620 (EM4305) 623620 (HITAG S)	684680 (EM4305) 623610 (HITAG S)	623620	623610	201045	629601	TM370E11	629191-012	629190-012 629190-312 (OM)	6K3190	6B0192 (6 mm) 6A9190 (9mm)	6C9192 (6 mm) 634190 (9mm)	6H2112	TM730E01	
<b>ELECTRONIC</b>															
Operating Frequency	134.2 kHz					13.56 MHz					860-960 MHz (Worldwide)				
Chip Type	EM4305/HITAG S				HITAG S	ICODE SLIX	ICODE SLIX-S	ICODE SLIX2		ICODE DNA	Vigo	F-Mem	Monza R6-P	M730	
Memory	512 bit EEPROM (EM4305) 256 bit EEPROM(HITAG S)		256 bit EEPROM		256 bit EEPROM	1024 bit EEPROM	2048 bits 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	28/96 bit EPC, 32/64 bit UM	128 bits EPC	
Anti-collision			Yes												
Reading Distance	Dependent upon reader, environment and application														
<b>PHYSICAL</b>															
Outer Coil Diameter	Ø 0.97 in (Ø 24.3 mm)	Ø 1.09 in (Ø 27.8 mm)	Ø 0.97 in (Ø 24.3 mm)	Ø 1.09 in (Ø 27.8 mm)		Ø 0.57 in (14.5 mm)	0.53 x 0.55 in (13.6 x 13.9 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)		Ø 0.6 in (18 mm)	0.27 x 0.27 in (7 x 7 mm)		
Inner Coil Diameter	Ø 0.79 in (Ø 20 mm)	Ø 0.93 in (Ø 23.5 mm)	Ø 0.79 in (Ø 20 mm)	Ø 0.93 in (Ø 23.5 mm)		Ø 0.27 in (Ø 6.8 mm)									
Thickness	0.03 in (0.85 mm)	0.09 in (2.2 mm)	0.03 in (0.85 mm)	0.09 in (2.2 mm)	Ø 0.07 x 0.59 in (Ø 1.8x15mm)	0.04 in (0.9 mm)	0.11 in (1 mm)		0.04 in (1 mm) / 0.03 in (0.8 mm) for 6 mm Piccolino			0.1 in (3 mm)	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			Polycarbonate	Epoxy		
<b>CHEMICAL AND MECHANICAL</b>															
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										Impact IEC 62262-IK07, 100 drops 5.9 ft (1.8 m), Axial/radial force 1000N				
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 68.2.29 [40 g, 18 ms, 6 axis, 2000 times]							
<b>THERMAL</b>															
Storage	-40° to +140° F (-40° to +60° C)					-40° to +248° F (-40° to 120° C)	-40° F to 257° F (-40° C to 125° C)	-40° to +185° F (-40° to 85° C), 1000 h							
Operating	-13° to +140° F (-25° to +60° C)					-13° to +185° F (-25° to +85° 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 284° F (140° C), 100 h	-40° to +185° F (-40° to 85° C) Peak: Up to 392° F (200° C), 15 sec		
<b>OTHER</b>															
Standards	ISO 11784, ISO 11785					ISO 15693, ISO 18000-3					ISO 15693	UHF EPC Class 1 Gen 2, ISO 18000-63			
Box Size	1250 pcs	1000 pcs	1250 pcs	1000 pcs	39 912 pcs	2000 pcs	1000 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														



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