



# HMS100-Series Passive Read/Write Tags

## Features

- Extremely Durable
- No Batteries
- Small and Easy to Mount
- Long Life
- No Moving Parts
- High Temperature Capability

## Applications

- Material Handling
- Sortation Systems
- Work-in-Progress Monitoring
- Quality Control

## Use With

- HMS800 / HMS805 Passive Reader/Writers
- HMS810 / HMS815 Passive Reader/Writers
- HMS814 / HMS816 Portable Reader/Writers
- HMS820 / HMS830 Passive Reader/Writers
- HMS820 / HMS830-04 Passive Conveyor Reader/Writers
- HMS820 / HMS830-08 Passive Wide-Plate Reader/Writers
- HMS827-Series Passive Reader/Writers
- HMS827-04 Passive Conveyor Reader/Writers

**EMS**, a Datalogic Group Company, is the field-proven leader in the development and application of Radio Frequency Identification (RFID) Tags/Labels/PCBs, Antennas, Controllers and network interface modules for tough industrial environments. With over a dozen years of RFID successes in the automotive, electronics, material handling and food processing industries, EMS has built a global reputation in providing customers with complete supply chain solutions – from production to retail EMS has the complete solution!

Escort Memory Systems' HMS Series is the latest in the EMS line of high performance, industrial RFID equipment. The passive design of the HMS Read/Write system uses the RF field from the Antenna to power the Tag, eliminating the need for batteries.

The HMS100-Series Tags are available in six versions, varying in range, size and operating temperature. The effective range is determined by the Tag coil size. The HMS150 has a larger coil and subsequently offers a longer Read/Write range than the HMS108.

The HMS100-Series Tags are unique compared to other Tags since they do not experience power-on delays. Typically, Tags have

capacitors on the coil that must be charged up before data communication can begin. The HMS100-Series Tags do not rely on capacitors, thereby reducing precious Read/Write time needed to communicate information to and from the Tag. The HMS 100-Series Tags are powered up almost instantaneously, allowing the end-user to speed up the conveyor or assembly process and reduce manufacturing time.

**HMS125HT  
AND  
HMS150HT  
TAGS CAN  
WITHSTAND  
TEMPERATURES  
UP  
TO 240°C**

When researching Tags, this is an often overlooked but extremely important feature.

Escort Memory Systems' HMS100-Series Tags are very durable, small in size and resistant to high temperature applications. Our patent-pending HMS125HT and HMS150HT Tags can survive temperatures up to 464°F (240°C), perfect for paint oven or hot chemical bath applications.



# HMS100-Series Passive Read/Write Tags

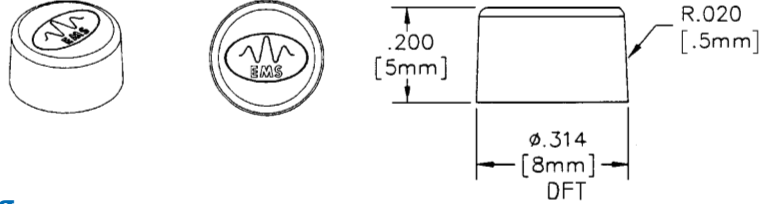
## HMS108 Passive Read/Write Tag

### Features

Memory	736 Bytes
Data Transfer Rate	1000 Bytes/Second
Operating Temperature	-4° to 185°F (-20° to 85°C)
Storage Temperature	-40° to 185°F (-40° to 85°C)
Protection Class	NEMA 6P/13 (IP68)

Note: "Operating Temperature" is the range of temperatures at which read, write and fill operations can be performed

### Mechanical Dimensions



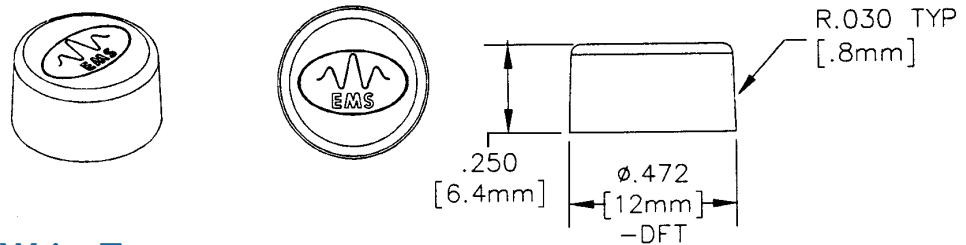
## HMS112 Passive Read/Write Tag

### Features

Memory	736 Bytes
Data Transfer Rate	1000 Bytes/Second
Operating Temperature	-4° to 185°F (-20° to 85°C)
Storage Temperature	-40° to 185°F (-40° to 85°C)
Protection Class	NEMA 6P/13 (IP68)

Note: "Operating Temperature" is the range of temperatures at which read, write and fill operations can be performed

### Mechanical Dimensions



## HMS125(HT) Passive Read/Write Tag

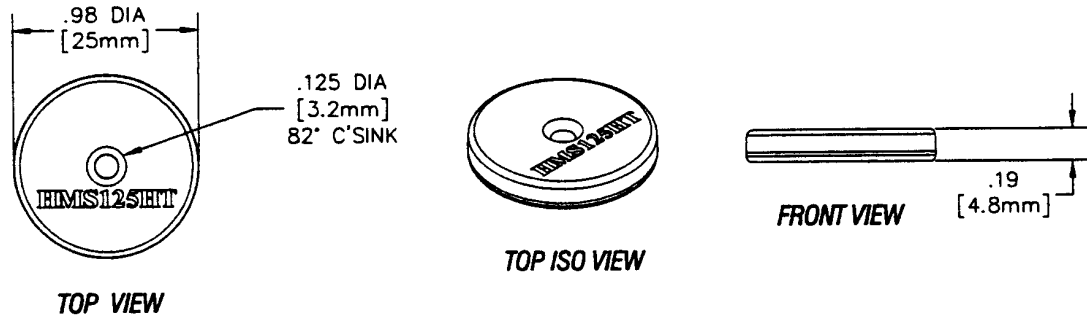
### Features

<b>HMS125</b>	
Memory	736 Bytes
Data Transfer Rate	1000 Bytes/Second
Operating Temperature	-4° to 185°F (-20° to 85°C)
Storage Temperature	-40° to 185°F (-40° to 85°C)
Protection Class	NEMA 6P/13 (IP68)

<b>HMS125HT</b>	
Memory	736 Bytes
Data Transfer Rate	1000 Bytes/Second
Operating Temperature	-40° to 275°F (-40° to 135°C)
Storage Temperature	-40° to 464°F (-40° to 240°C)
Protection Class	NEMA 6P/13 (IP68)

Note: "Operating Temperature" is the range of temperatures at which read, write and fill operations can be performed

### Mechanical Dimensions



# HMS100-Series Passive Read/Write Tags

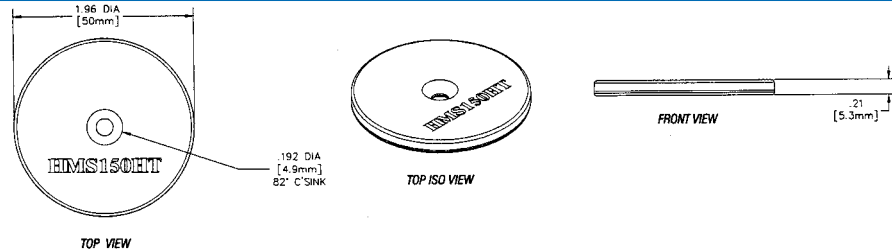
## HMS150(HT) Passive Read/Write Tag

### Features

<b>HMS150</b>	
Memory	736 Bytes
Data Transfer Rate	1000 Bytes/Second
Operating Temperature	-4° to 185°F (-20° to 85°C)
Storage Temperature	-40° to 185°F (-40° to 85°C)
Protection Class	NEMA 6P/13 (IP68)
<b>HMS150HT</b>	
Memory	736 Bytes
Data Transfer Rate	1000 Bytes/Second
Operating Temperature	-40° to 275°F (-40° to 135°C)
Storage Temperature	-40° to 464°F (-40° to 240°C)
Protection Class	NEMA 6P/13 (IP68)

Note: "Operating Temperature" is the range of temperatures at which read, write and fill operations can be performed.

### Mechanical Dimensions



### Typical & Guaranteed Read/Write Ranges (inches/mm)\*

Readers/Writers	Tags			
	HMS108	HMS112	HMS125(HT)	HMS150(HT)
<b>HMS800</b>	Typ. **	**	1.10/28	2.75/70
	Guar. **	**	0.87/22	2.20/56
<b>HMS805</b>	Typ. 0.43/11	0.67/17	1.14/29	1.38/35
	Guar. 0.35/9	0.55/14	0.91/23	1.10/28
<b>HMS810</b>	Typ. **	**	1.10/28	2.75/70
	Guar. **	**	0.87/22	2.20/56
<b>HMS815</b>	Typ. 0.43/11	0.67/17	1.14/29	1.38/35
	Guar. 0.35/9	0.55/14	0.91/23	1.10/28
<b>HMS814</b>	Typ. 0.28/7	0.35/9	0.63/16	0.59/15
	Guar. 0.24/6	0.28/7	0.51/13	0.47/12
<b>HMS816</b>	Typ. 0.28/7	0.35/9	0.63/16	0.59/15
	Guar. 0.24/6	0.28/7	0.51/13	0.47/12
<b>HMS820</b>	Typ. **	**	1.10/28	1.97/50
	Guar. **	**	0.87/22	1.57/40
<b>HMS820-05</b>	Typ. 0.39/10	0.59/15	0.91/23	1.38/35
	Guar. 0.31/8	0.47/12	0.70/18	1.10/28
<b>HMS820-04</b>	Typ. **	**	0.71/18	1.57/40
	Guar. **	**	0.55/14	1.26/32
<b>HMS830-04</b>	Typ. **	**	0.71/18	1.57/40
	Guar. **	**	0.55/14	1.26/32
<b>HMS820-08</b>	Typ. **	**	1.18/30	5.00/127
	Guar. **	**	0.94/24	4.02/102
<b>HMS830-08</b>	Typ. **	**	1.18/30	5.00/127
	Guar. **	**	0.94/24	4.02/102
<b>HMS830</b>	Typ. **	**	1.10/28	1.97/50
	Guar. **	**	0.87/22	1.57/40
<b>HMS830-05</b>	Typ. 0.39/10	0.59/15	0.91/23	1.38/35
	Guar. 0.31/8	0.47/12	0.70/18	1.10/28
<b>HMS827-Vert.</b>	Typ. 0.43/11	0.67/17	1.18/30	1.89/48
	Guar. 0.35/9	0.55/14	0.94/24	1.50/38
<b>HMS827-Horiz.</b>	Typ. 0.39/10	0.55/14	0.98/25	1.57/40
	Guar. 0.31/8	0.43/11	0.79/20	1.26/32
<b>HMS827-03</b>	Typ. 0.35/9	0.47/12	0.79/20	**
	Guar. 0.28/7	0.39/10	0.63/16	**
<b>HMS827-04</b>	Typ. **	**	0.71/18	1.57/40
	Guar. **	**	0.55/14	1.26/32
<b>HMS827-06</b>	Typ. 0.47/12	0.59/15	1.06/27	0.83/22
	Guar. 0.39/10	0.47/12	0.87/22	0.70/18

\* Proximity to metal, CRT devices and other sources of electromagnetic radiation may affect the range of the Antenna.  
\*\* Not recommended

# HMS100-Series Passive Read/Write Tags

## Available Models\*

Model	Description
HMS108	Passive Read/Write Tag, 8mm, 736 Bytes; -40° to 185°F (-40° to 85°C) Storage Temperature
HMS112	Passive Read/Write Tag, 12mm, 736 Bytes; -40° to 185°F (-40° to 85°C) Storage Temperature
HMS125	Passive Read/Write Tag, 25mm, 736 Bytes; -40° to 185°F (-40° to 85°C) Storage Temperature
HMS125HT	High-Temperature Passive Read/Write Tag, 25mm, 736 Bytes; -40° to 464°F (-40° to 240°C) Storage Temperature
HMS150	Passive Read/Write Tag, 50mm, 736 Bytes; -40° to 185°F (-40° to 85°C) Storage Temperature
HMS150HT	High-Temperature Passive Read/Write Tag, 50mm, 736 Bytes; -40° to 464°F (-40° to 240°C) Storage Temperature

\* Note: For complete chemical resistancy chart, refer to Appendix D on page XXX.

## Compatible Products

Model	Description
HMS800	Passive Reader/Writer, RS232 Communications
HMS805	Passive Reader/Writer, RS232 Communications, 30mm Tubular Remote Antenna
HMS810	Passive Reader/Writer, RS485/Mux32 Communications
HMS815	Passive Reader/Writer, RS485/Mux32 Communications, 30mm Tubular Remote Antenna
HMS814	Portable RF Reader/Writer
HMS816	Portable RF Reader/Writer with RS232 Interface
HMS814 J003	Portable Reader/Writer Kit includes: HMS814 Passive Reader/Writer, PC2420 Hand-Held Terminal, 00-1099 Battery and 00-1102 Battery Charger
HMS814 J024	Portable Reader/Writer Kit includes: HMS814 Passive Reader/Writer, PC2425 Hand-Held Terminal, 00-1099 Battery and 00-1102 Battery Charger
HMS820	Passive Reader/Writer
HMS820-04	Passive Conveyor Reader/Writer
HMS830-04	Passive Conveyor Reader/Writer with DeviceNet Interface
HMS820-05	Passive Reader/Writer with 30mm Remote Antenna
HMS820-08	Passive Wide-Plate Reader/Writer
HMS830-08	Passive Wide-Plate Reader/Writer with DeviceNet Interface
HMS830	Passive Reader/Writer with DeviceNet Interface
HMS830-05	Passive Reader/Writer with DeviceNet Interface, 30mm Remote Antenna
HMS827	Passive Reader/Writer
HMS827-03	Passive Reader/Writer with 18mm Tubular Remote Antenna
HMS827-04	Passive Conveyor Reader/Writer
HMS827-06	Passive Reader/Writer with 30mm x 40mm x 12mm Remote Antenna

## Accessories

Model	Description
00-1116	Spacer Kit for HMS125 Passive Read/Write Tag, 10 Spacers and 10 Screws
00-1117	Spacer Kit for HMS150 Passive Read/Write Tag, 10 Spacers and 10 Screws
00-1118	Spacer Kit for HMS125HT Passive Read/Write Tag, Teflon, 10 Spacers and 10 Screws
00-1119	Spacer Kit for HMS150HT Passive Read/Write Tag, Teflon 10 Spacers and 10 Screws
00-1129	Ceramic Spacer Kit for HMS150HT Passive Read/Write Tag, 10 Spacers and 10 Screws

**Passive Read/Write Radio Frequency Identification (RFID)  
Typical & Guaranteed Read/Write Ranges**

(inches/mm)\*

Readers/Writers	Tags				
	HMS108	HMS112	HMS125(HT)	HMS150(HT)	
<b>HMS800</b>	Typ.	**	**	1.10/28	2.75/70
	Guar.	**	**	0.87/22	2.20/56
<b>HMS805</b>	Typ.	0.43/11	0.67/17	1.14/29	1.38/35
	Guar.	0.35/9	0.55/14	0.91/23	1.10/28
<b>HMS810</b>	Typ.	**	**	1.10/28	2.75/70
	Guar.	**	**	0.87/22	2.20/56
<b>HMS815</b>	Typ.	0.43/11	0.67/17	1.14/29	1.38/35
	Guar.	0.35/9	0.55/14	0.91/23	1.10/28
<b>HMS814</b>	Typ.	0.28/7	0.35/9	0.63/16	0.59/15
	Guar.	0.24/6	0.28/7	0.51/13	0.47/12
<b>HMS816</b>	Typ.	0.28/7	0.35/9	0.63/16	0.59/15
	Guar.	0.24/6	0.28/7	0.51/13	0.47/12
<b>HMS820</b>	Typ.	**	**	1.10/28	1.97/50
	Guar.	**	**	0.87/22	1.57/40
<b>HMS820-05</b>	Typ.	0.39/10	0.59/15	0.91/23	1.38/35
	Guar.	0.31/8	0.47/12	0.70/18	1.10/28
<b>HMS820-04</b>	Typ.	**	**	0.71/18	1.57/40
	Guar.	**	**	0.55/14	1.26/32
<b>HMS830-04</b>	Typ.	**	**	0.71/18	1.57/40
	Guar.	**	**	0.55/14	1.26/32
<b>HMS820-08</b>	Typ.	**	**	1.18/30	5.00/127
	Guar.	**	**	0.94/24	4.02/102
<b>HMS830-08</b>	Typ.	**	**	1.18/30	5.00/127
	Guar.	**	**	0.94/24	4.02/102
<b>HMS830</b>	Typ.	**	**	1.10/28	1.97/50
	Guar.	**	**	0.87/22	1.57/40
<b>HMS830-05</b>	Typ.	0.39/10	0.59/15	0.91/23	1.38/35
	Guar.	0.31/8	0.47/12	0.70/18	1.10/28
<b>HMS827-Vert.</b>	Typ.	0.43/11	0.67/17	1.18/30	1.89/48
	Guar.	0.35/9	0.55/14	0.94/24	1.50/38
<b>HMS827-Horiz.</b>	Typ.	0.39/10	0.55/14	0.98/25	1.57/40
	Guar.	0.31/8	0.43/11	0.79/20	1.26/32
<b>HMS827-03</b>	Typ.	0.35/9	0.47/12	0.79/20	**
	Guar.	0.28/7	0.39/10	0.63/16	**
<b>HMS827-04</b>	Typ.	**	**	0.71/18	1.57/40
	Guar.	**	**	0.55/14	1.26/32
<b>HMS827-06</b>	Typ.	0.47/12	0.59/15	1.06/27	0.83/22
	Guar.	0.39/10	0.47/12	0.87/22	0.70/18

\* Proximity to metal, CRT devices and other sources of electromagnetic radiation may affect the range of the Antenna.

\*\* Not recommended