ESCORT MEMORY SYSTEMS
A DATALOGIC GROUP COMPANY

HL200R-Series Read/Write Tags

Features
- Up to 8KB of Memory
- 750 Bytes/Second Data Transfer — Reading and Writing
- Epoxy Encapsulated
- Replaceable Lithium Batteries
- Unaffected by Paints, Dust, Dirt and Solvents

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

Use With
- HL500-Series Antennas
- HL814 / HL816 Portable Reader/Writers

Escort Memory Systems® (EMS) has a complete family of field-proven Read/Write and Read only Radio Frequency Identification (RFID) products and network interface modules. The system consists of Tags, Antennas and Controllers. Tags can be attached to a product or its carrier and act as an electronic identifier, job sheet, portable database, or manifest. Tags are read and updated via an EMS Antenna through any non-conductive material while moving or standing still.

Technical Description

The HL200R-Series Tags incorporate from 64 Bytes up to 8KB of fast, random-access memory and are epoxy encapsulated to withstand the harshest industrial environments. Advanced digital signal processing techniques allow a data transmission speed of 750 bytes per second while still using reliable, safe, low-frequency RF. EMS Tags are the only low-frequency RF Tags on the market with such high speed data transfer capability.

The approximately four-inch Read/Write range of the HL200R-Series Tags make them ideal for use in pallet based automated systems. Once the Tag is mounted, the pallet becomes "intelligent," and can carry with it all information regarding the product or material on the pallet. Other than replacing batteries, the Tag does not require maintenance.

The HL200R-Series Tags contain a replacement battery power source. The battery will power the Tag for 40 million bytes transferred or ten years, whichever comes first. The lifetime of the battery can be easily calculated according to the number of bytes to be transferred to and from the Tag per day.

Battery life can be tracked using the Tag's internal battery counter. Byte 0 of the Tag contains the results of an internal timer, which keeps approximate track of the total time which the Tag has been active. Byte 0 reads 70 hours of actual transmitting time. For the HL200R-Series Tags, the battery should be replaced when the timer value reaches fifteen.
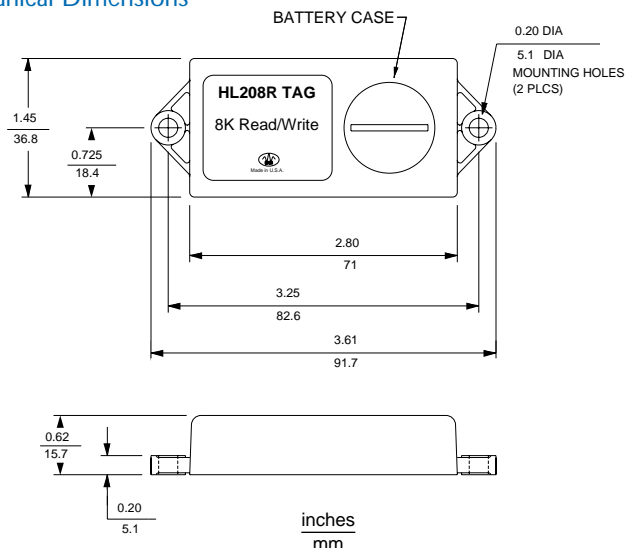
Unlike competitive RFID systems, the HL200R-Series Tags are insensitive to the direction of travel or to the orientation of the Tag face to the Antenna. Data transfer operations are insensitive to non-conductive materials in the RF field and are unaffected by wet environments.

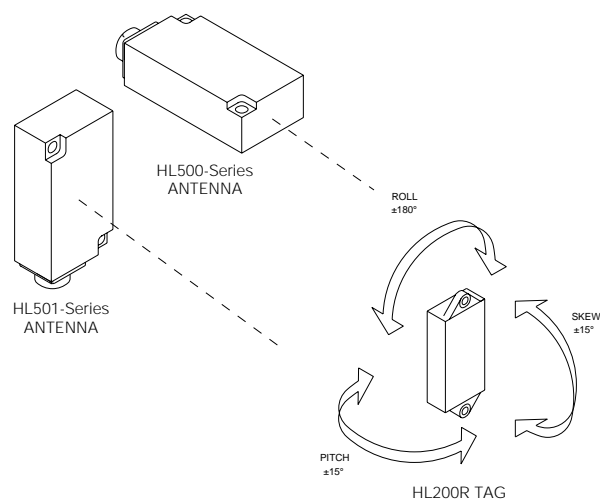**REPLACEABLE BATTERIES GIVE THE HL200R TAGS VIRTUALLY UNLIMITED LIFE**

HL200R-Series Read/Write Tags

Electrical	Battery Type	Replaceable Long-Life Lithium Batteries
	Battery Life	10 Years or 40 Million Bytes Transferred to/from Tags

Memory	Memory Type	CMOS Static RAM
	Memory Capacity	
	HL200R	64Bytes
	HL208R	8KB

RF Interface	Data Transfer Rate*	750 Bytes/Second

* Typical values with HL500-Series Antennas, Reading and Writing.

Mechanical Specifications	Dimensions (W x H x D)	3.6 x 1.5 x 0.6in. (92 x 37 x 16mm)
	Weight	2.6oz. (74g)
	Enclosure	ABS Shell, Epoxy Encapsulated

Environment	Operating Temperature	14° to 120°F (-10° to 49°C)
	Storage Temperature	-40° to 185°F (-40° to 85°C)
	Humidity	Water-Resistant
	Protection Class	NEMA 4X (IP67)

Mechanical Dimensions

Tag-to-Antenna Orientation

Read/Write Ranges

HL200R-Series Read/Write Tags
Reading & Writing Ranges with HL500-Series Antennas

	HL500(A)	HL501(A)	HL814	HL816
Typical Range (Y) (inches/mm)*	3.74/95	3.70/94	0.47/12	0.47/12
Guaranteed Operating Range (X)	2.99/76	2.96/75	0.39/10	0.39/10

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

Available Models

Model	Description
HL200R	64Byte Read/Write Tag
HL208R	8KB Read/Write Tag