



HS232R Read/Write Tags



Features

- 32KB of Memory
- 3000 Bytes/Second Data Transfer — Reading and Writing
- Epoxy Encapsulated
- Unaffected by Paints, Dust, Dirt and Solvents

Applications

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

Use With

- HS500-Series Antennas
- HS814 / HS816 Portable Reader/Writers

Escort Memory Systems is the field-proven leader in the development and application of Radio Frequency Identification (RFID) Tags, Antennas, Controllers, and network interface modules for industrial environments. With over twenty years of RFID successes in the automotive, electronics, pharmaceutical, 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 answer!

Technical Description

The HS232R Tag incorporates 32KB of fast, random-access memory and is epoxy encapsulated to withstand the harshest environments. Advanced digital signal processing techniques allow a data transmission speed of 3,000 bytes per second while still using reliable, safe, low-frequency RF. The EMS HS tags are the only low-frequency RF tags on the market with such high speed data transfer capability.

The approximately six inch read/write range of the HS232R tag makes it ideal for use in pallet-based automated systems. Once the tag is mounted, the pallet becomes “smart” and can carry with it all information regarding the product or material on the pallet. The very long life of the tag means that it doesn’t have to be removed. Other than replacing batteries, the tag does not require maintenance.

The HS232R tag contains a replaceable lithium battery power source. The battery will power the tag for 150 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. For example, let the application call for 200 bytes to be transferred to or from the tag every minute for eight hours per day, seven days per week. Multiplying 200 bytes per operation times 480 operations per day yields 96,000 operations per day. Then in this case, the battery can be expected to have a lifetime of 4.2 years.

Battery life can be tracked using the tag’s internal counter. Byte 0 of the tag contains the results of this internal timer which relates to the total time that the tag has been active, up to 70 hours of active transmission time. The tag battery can be easily changed by unscrewing the removable cap and following the replacement instructions.

Unlike some RFID systems, the HS232R tags are insensitive to the direction of travel or orientation of the tag face to the antenna.

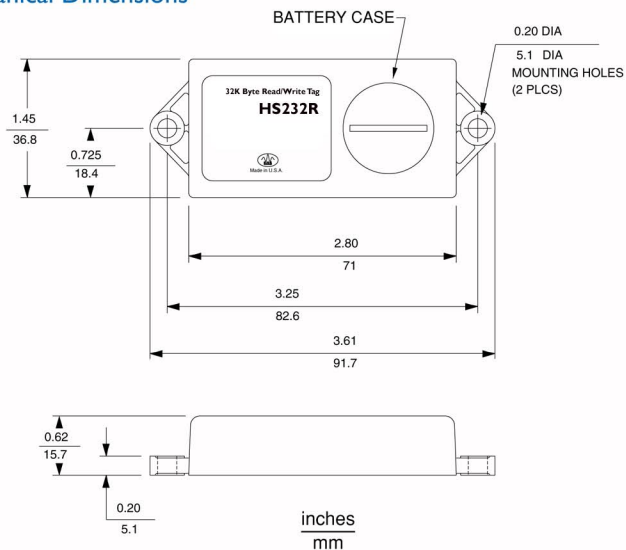
**RFID AT
WORK™**



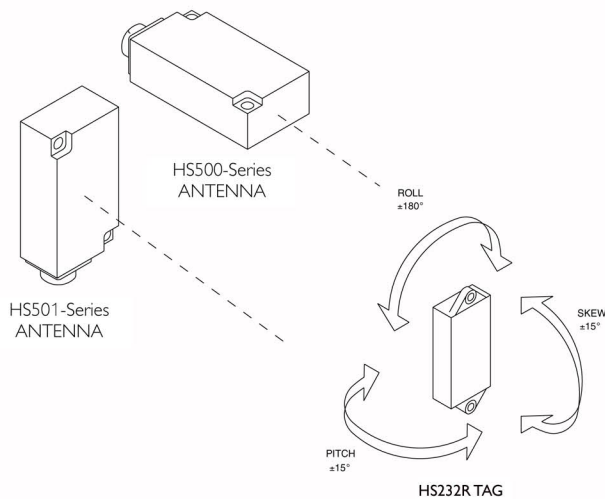
HS232R Read/Write Tags

Electrical	Battery Type Battery Life	Replaceable Long-Life Lithium Batteries 10 Years or 150 Million Bytes Transferred to/from Tags
Memory	Memory Type Memory Capacity	CMOS Static RAM 32KB
RF Interface	Data Transfer Rate	3000 Bytes/Sec Maximum
Mechanical Specifications	Dimensions (W x H x D) Weight Enclosure	3.61 x 1.45 x 0.62in. (92 x 37 x 16mm) 2.6oz. (74g) ABS Shell, Epoxy Encapsulated
Environment	Operating Temperature Storage Temperature (batteries out) Storage Temperature (batteries in) Humidity Protection Class *proper battery replacement procedures must be observed to maintain this rating. The O-ring gasket/washer must be replaced with a new one each time the battery compartment is opened.	14° to 120°F (-10° to 49° C) -40° to 185°F (-40° to 85° C) -22° to 158°F (-30° to 70° C) Water-Resistant NEMA4 (IP67)*

Mechanical Dimensions



Tag-to-Antenna Orientation



Read/Write Ranges

	HS500(A)	HS501(A)	HS814	HS816	HS500E
Typical Range (Y) (inches/mm)*	5.91/150	5.00/127	1.77/45	1.77/45	4.00/102
Guaranteed Operating Range (X)	4.72/120	4.02/102	1.42/36	1.42/36	3.00/76

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

