



# HS500-Series Read/Write Antennas

## Features

- 3000 Bytes/Second Data Transfer Speed — Reading and Writing
- Epoxy Encapsulated
- Access Tags through Virtually Any Non-Conductive Material
- Unaffected by Paint, Dust, Dirt and Solvents
- High Immunity to Metal
- Small and Rugged for Easy Installation

## Applications

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

## Use With

- HS200R-Series Tags
- HS200XL-Series Tags
- HS200LR-Series Tags
- HS850B Serial Eurocard Controller
- HS880B-Series Read/Write Controller
- HS900 PC-Bus Read/Write Controller
- CM01 Asynchronous Serial Interface Module
- CM12 DeviceNet Module
- CM21 InterBus-S Module
- CM30-Series Profibus Modules
- CM40-Series Modbus Plus Modules
- CM52 Remote I/O Module
- CM80-Series ControlNet Interface Modules
- CM900 / CM1000
- CM1746 RFID Module

**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!

## Technical Description

The HS500-Series Antennas connected to an Escort Memory Systems' Controller provides a very convenient interface between a host computer or programmable Controller and the data in EMS Tags.

The HS500 Antenna contains all the circuitry necessary to convert the digital signals received from the Controller to high-speed RF signals for the Tags, and subsequently, convert the RF signals from the Tags back into digital signals for the Controller.

The compact size and long-range of the Antenna makes it ideal for use in factory automation environments where space is at a premium. For greater mounting flexibility, the HS500 is available in both end-emitting and

face-emitting versions. To further ease installation, the distance from the Controller card to the Antenna can be up to 4,000 feet. This is advantageous because the Controller portion of the RFID system is then afforded extra protection from noise that could be generated by electrical equipment positioned near the Read/Write station. Connection to the Controller is via a quick disconnect circular connector. Antennas can be replaced on the line without changing any wiring.

The Antenna is equipped with a two-color status LED, indicating when power is present and the Antenna is or is not transmitting.

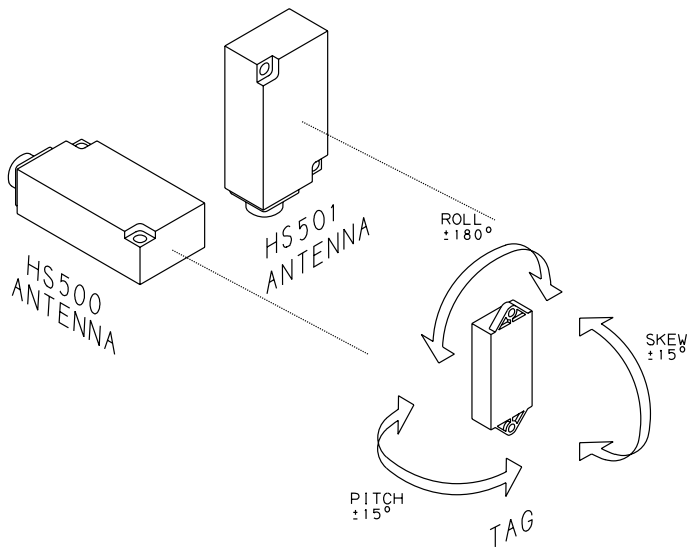
The Antenna is a solid state device, without moving parts or mechanical switches, and configuration is not required prior to installation. It has a metal backplate which helps to distribute stress from the mounting bolts and greatly increases immunity to additional metal in the Read/Write field.

**COMPACT  
SIZE, LARGE  
MEMORY AND  
RAPID DATA  
TRANSFER SPEED**

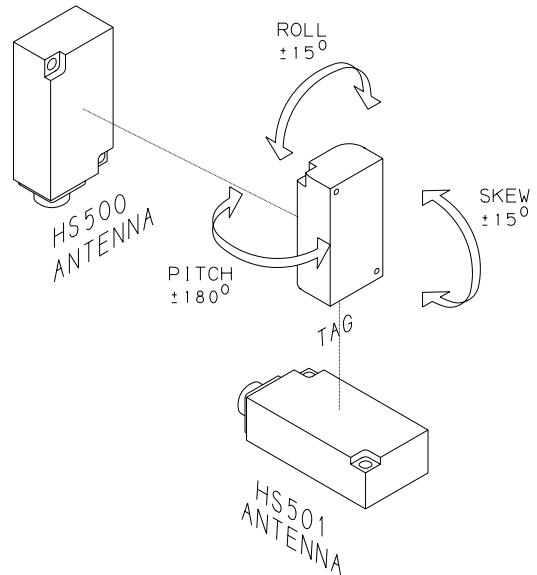
# HS500-Series Read/Write Antennas

<b>Electrical</b>	Supply Voltage Max. Current	20-26VDC 500mA
<b>RF Interface</b>	Data Transfer Rate	3000 Bytes/Second
<b>Interface With Controller</b>	Max. Cable Length	4000ft. (1200m)
<b>Mechanical Specifications</b>	Dimensions (W x H x D) Weight Enclosure Cable	4.10 x 2.15 x 1.26in. (104 x 55 x 32mm) 13.4oz. (380g) ABS Shell, Epoxy-Encapsulated User-Supplied
	<b>Connector</b> HS500 HS500A HS501 HS501A Indicators	8-Pin Plastic Circular (Mating End Furnished) 6-Pin Metal Circular 8-Pin Plastic Circular (Mating End Furnished) 6-Pin Metal Circular Power/Transmit LED
<b>Environment</b>	Operating Temperature Storage Temperature Humidity Protection Class	14° to 129°F (-10° to 49°C) -40° to 185°F (-40° to 85°C) Water-Resistant NEMA 4X (IP66)

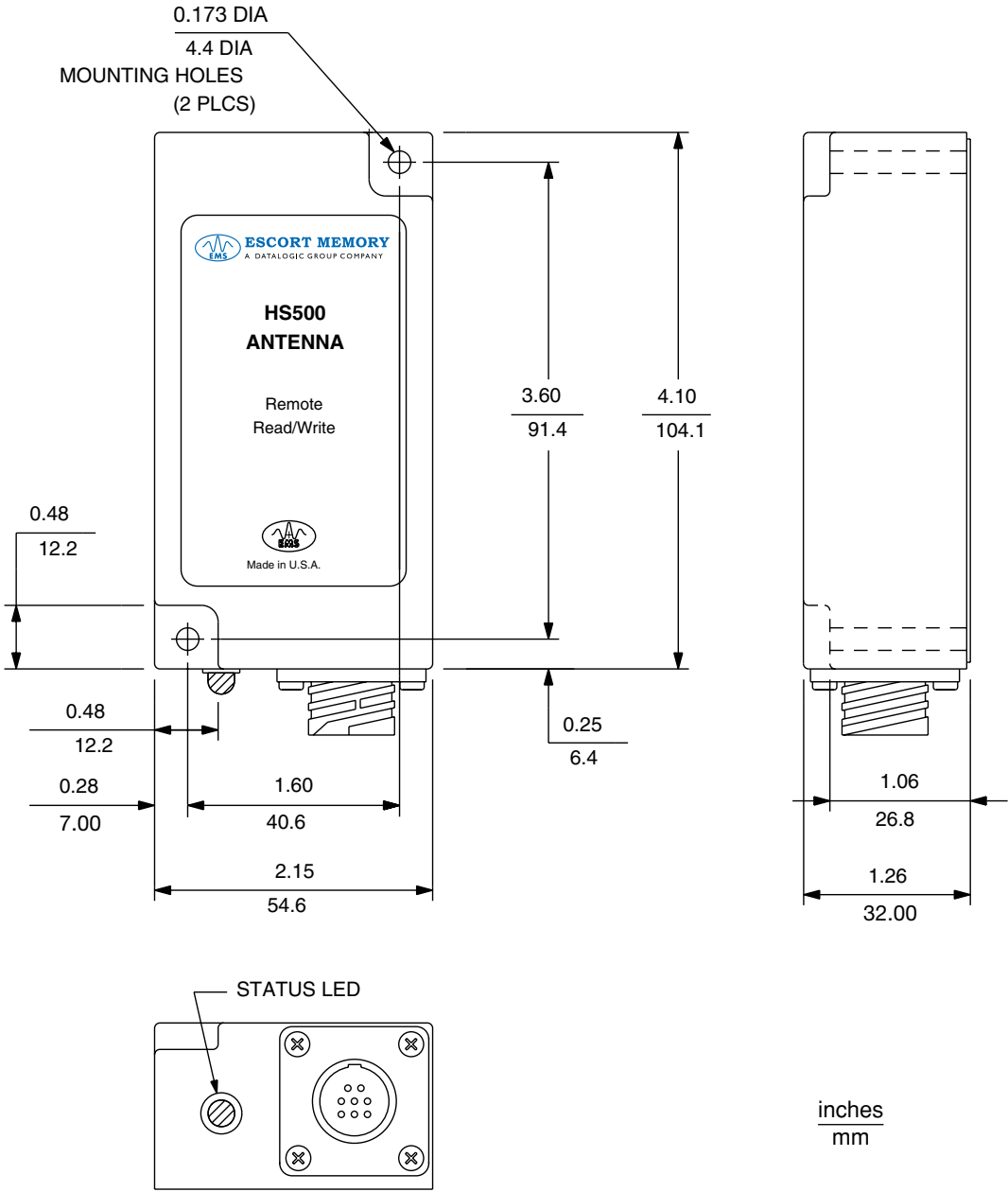
## Antenna to HS200R Tag Orientation



## Antenna to HS200LR Tag Orientation

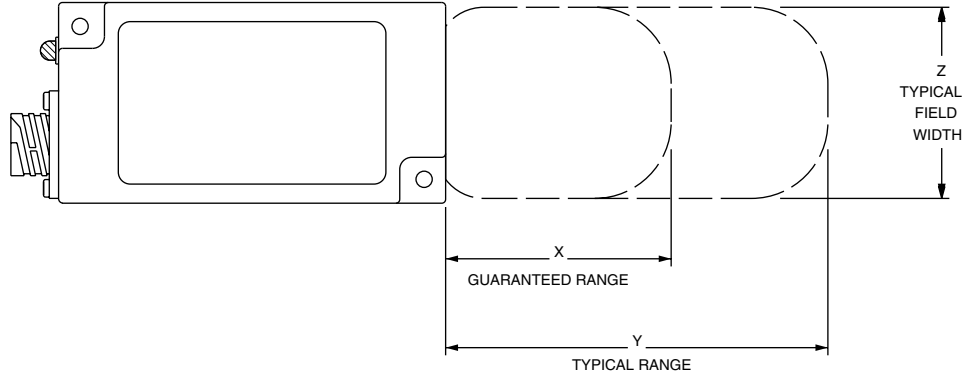


Mechanical Dimensions



# HS500-Series Read/Write Antennas

## Read/Write Ranges



## HS500(A) / HS501(A)-Series Read/Write Antennas

### Reading & Writing Ranges with HS200-Series Read/Write Tags

(inches/mm)\*

		HS200R	HS200XL	HS200LR
<b>HS500(A)</b>	Typ.	5.91/150	5.71/145	18.70/475
	Guar.	4.72/120	4.57/116	15.00/380
<b>HS501(A)</b>	Typ.	5.00/127	5.00/127	13.00/330
	Guar.	4.02/102	4.02/102	10.40/264

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

## Available Models

Model	Description
HS500	Small Remote Read/Write Antenna, Standard Plastic Circular Connector
HS500A	Small Remote Read/Write Antenna, Metal Circular Connector
HS501	Small Remote Read/Write Antenna, Face-Emitting, Plastic Circular Connector
HS501A	Small Remote Read/Write Antenna, Face-Emitting, Metal Circular Connector

## Accessories

Model	Description
68-5001	Crimping Tool for 8-Pin Circular Connector (Amp 169341-1)
10-7026	8-Pin Plastic Mating Connector for HS500-Series Antennas (1 Kit Ships with Antenna)
46-1291	Straight 6-Pin Circular Plug for HS500A-Series Antennas (Does Not Ship with Antenna) (Amp 97-3106-A-14S-6S-608)
46-1292	Right Angle 6-Pin Circular Plug for HS500A-Series Antennas (Does Not Ship with Antenna) (Amp 97-3108-A-14S-6S-608)
46-5073	Cable Clamp for 46-1291 and 46-1293. Max. Cable O.D. 11/32" (Amp 9767-14-6)

## Ordering Notes

The Mating Connector Kit for the HS500/HS501 Antennas Ship with the Units. The Mating Connector Kit for the HS500A/HS501A Antennas Must Be Purchased Separately.

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

(inches/mm)\*

Antennas	Tags			
	HS200R-Series	HS200XL-Series	HS200LR-Series	
<b>HS500(A)</b>	Typ.	5.91/150	5.71/145	18.70/475
	Guar.	4.72/120	4.57/116	15.00/380
<b>HS501(A)</b>	Typ.	5.00/127	5.00/127	13.00/330
	Guar.	4.02/102	4.02/102	10.40/264
<b>HS510</b>	Typ.	**	**	2.00-29.00/50-737
	Guar.	**	**	2.00-23.23/50-590
<b>HS550A</b>	Typ.	4.49/114	5.90/150	16.50/420
	Guar.	3.58/91	4.72/120	13.20/335
<b>HS814</b>	Typ.	1.77/45	1.77/45	1.77/45
	Guar.	1.42/36	1.42/36	1.42/36
<b>HS816</b>	Typ.	1.77/45	1.77/45	1.77/45
	Guar.	1.42/36	1.42/36	1.42/36

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

\*\*Not recommended

**Active Read/Write Radio Frequency Identification (RFID) – European  
Typical & Guaranteed Read/Write Ranges**

(inches/mm)\*

Antennas	Tags		
	HL200R-Series	HL200XL-Series	
<b>HL500(A)</b>	Typ.	3.74/95	3.90/100
	Guar.	2.99/76	3.15/80
<b>HL501(A)</b>	Typ.	3.70/94	3.70/94
	Guar.	2.96/75	2.96/75
<b>HL814</b>	Typ.	0.47/12	0.47/12
	Guar.	0.39/10	0.39/10
<b>HL816</b>	Typ.	0.47/12	0.47/12
	Guar.	0.39/10	0.39/10

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