HL500-Series Read/Write Antennas

Features

- 750 Bytes/Second Data Transfer Speed — Reading and Writing
- Epoxy Encapsulated
- Can 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

- HL200R-Series Tags
- HL200XL-Series Tags

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 HL500-Series Antennas connected to an EMS Controller provides a very convenient interface between a host computer, or Programmable Controller and the data in EMS Tags.

The HL500 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 to convert the RF signals from the Tags back into digital signals for the Controller.

The small 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 HL500 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 SMALL SIZE OF THE HL500 MAKES IT EASY TO INSTALL IN TIGHT SPACES**

The Antenna is equipped with a two-color status LED, indicating when power is present and the Antenna is or is not transmitting.
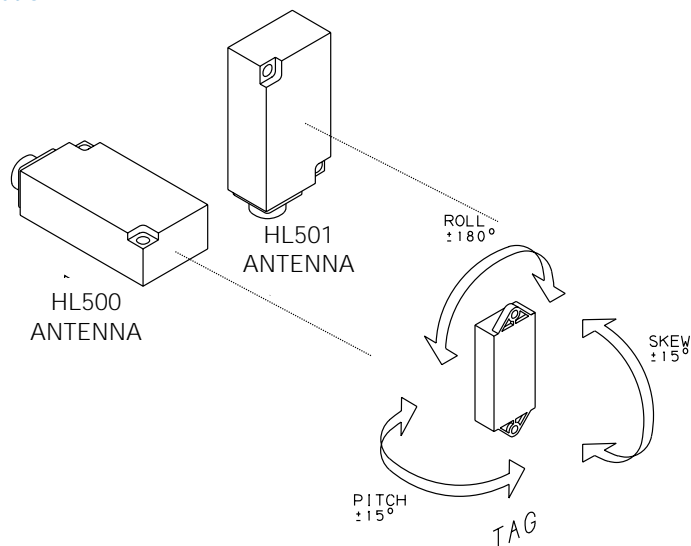
The Antenna is a solid state device, without moving parts or mechanical switches, and configuration is not required prior to installation. It has a metal backplate which helps to distribute stress from the mounting bolts and greatly increases immunity to additional metal in the Read/Write field.

HL500-Series Read/Write Antennas

Electrical	Power Requirements	20-26VDC
	Max. Current	500mA
	Max. Ripple	2% of DC voltage

RF Interface	Data Transfer Rate*	750 Bytes/Second

* Typical values with HL200R-Series Tag, Reading and Writing.

Interface With Controller	Max. Cable Length	4000ft. (1200m)

Mechanical Specifications	Dimensions (W x H x D)	4.10 x 2.15 x 1.26in. (104 x 55 x 32mm)
	Weight	13.4oz. (380g)
	Enclosure	ABS Shell, Epoxy-Encapsulated
	Cable	User-Supplied
	Connector	
	HL500	8-Pin Circular (Mating End Furnished)
	HL500A	6-Pin Metal Circular
	HL501	8-Pin Plastic Circular (Mating End Furnished)
	HL501A	6-Pin Metal Circular
	Indicators	Power/Transmit LED

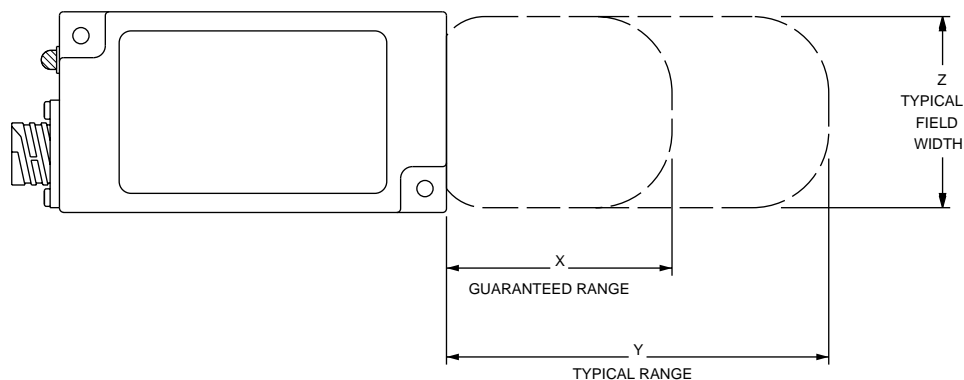| Environment	Operating Temperature	14° to 120°F (-10° to 49°C)
	Storage Temperature	-40° to 185°F (-40° to 85°C)
	Humidity	Water-Resistant
	Protection Class	NEMA 4X (IP66)

Antenna to HL200R Tag Orientation

HL500 ANTENNA

HL501 ANTENNA

ROLL ±180°

SKEW ±15°

PITCH ±15°

TAG

Mechanical Dimensions

0.173 DIA
4.4 DIA
MOUNTING HOLES
(2 PLCS)

ESCORT MEMORY
A DATALOGIC GROUP COMPANY

**HL500
ANTENNA**

Remote
Read/Write

Made in U.S.A.

3.60
91.4

4.10
104.1

0.48
12.2

0.48
12.2

0.25
6.4

0.28
7.00

1.60
40.6

1.06
26.8

2.15
54.6

1.26
32.00

STATUS LED
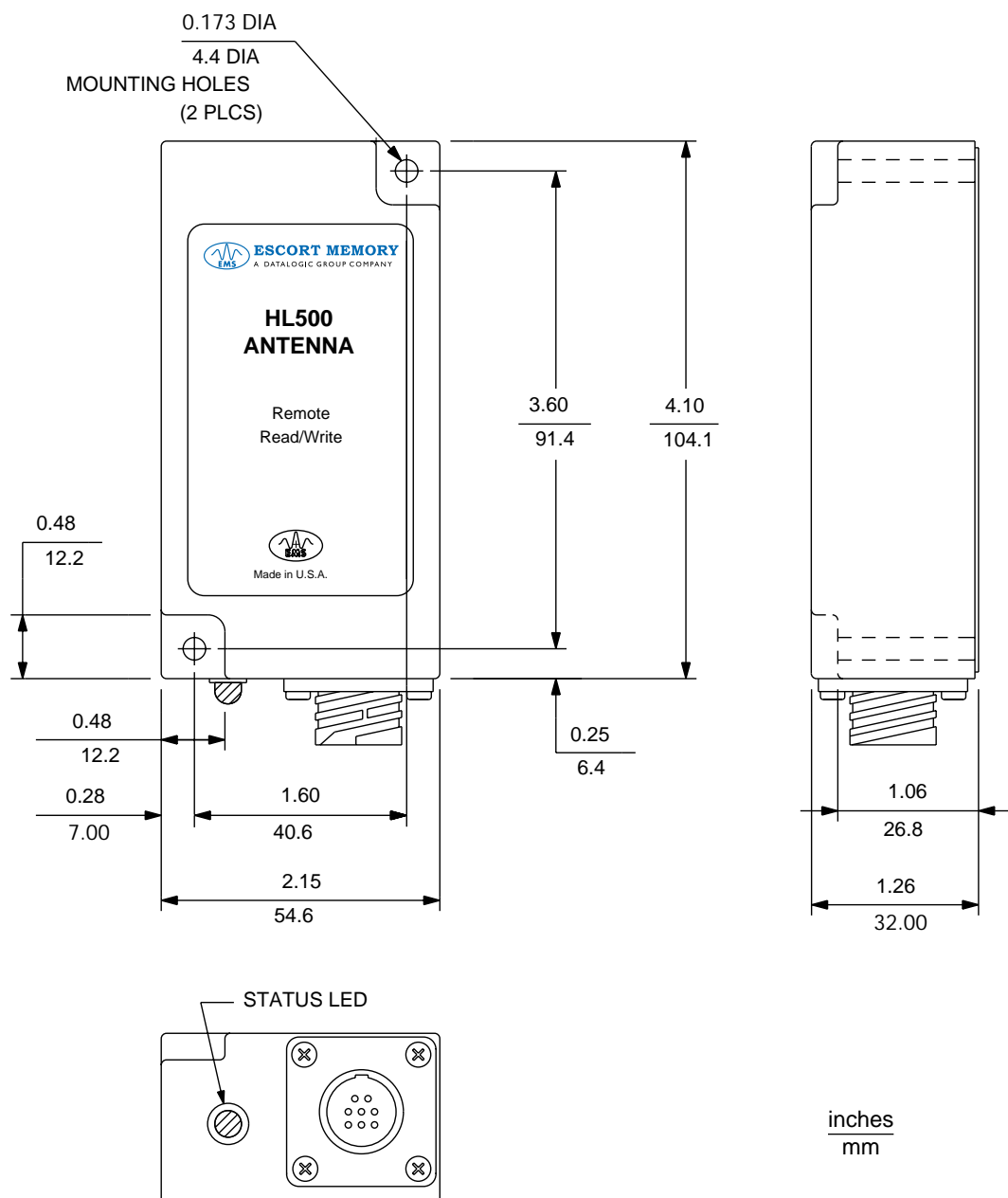
inches
mm

HL500-Series Read/Write Antennas

Read/Write Ranges

GUARANTEED RANGE — X

TYPICAL RANGE — Y

Z TYPICAL FIELD WIDTH

HL500 / HL500A-Series Read/Write Antennas

Reading & Writing Ranges with HL200-Series Tags

	HL200R	HL200XL
Typical Range (Y) (inches/mm)*	3.74/95	3.90/100
Guaranteed Operating Range (X)	2.99/76	3.15/80

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

HL501 / HL501A-Series Read/Write Antennas

Reading & Writing Ranges with HL200-Series Tags

	HL200R	HL200XL
Typical Range (Y) (inches/mm)*	3.70/94	3.70/94
Guaranteed Operating Range (X)	2.96/75	2.96/75

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

Available Models

Model	Description
HL500	Small Remote Read/Write Antenna, Standard Plastic Circular Connector
HL500A	Small Remote Read/Write Antenna, Metal Circular Connector
HL501	Small Remote Read/Write Antenna, Face-Emitting, Plastic Circular Connector
HL501A	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 HL500-Series Antennas (1 Kit Ships with Antenna)
46-1291	Straight 6-Pin Circular Plug for HL500A-Series Antennas (Does Not Ship with Antenna) (Amp 97-3106-A-14S-6S-608)
46-1292	Right Angle 6-Pin Circular Plug for HL500A-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 HL500 / HL501 Antennas Ship with the Units. The Mating Connector Kit for the HL500A / HL501A Antennas Must Be Purchased Separately.