HMS800-Series Passive Reader/Writers

Features

- High Data Transfer Speed, 1000 Bytes/Second
- Serial Reader/Writer with Integrated Antenna
- Passive Tag, Requires No Batteries
- Meets FCC and International Specifications
- Simple Interface to Host Systems

Applications

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

Use With

- HMS-Series Tags
- CM01 Asynchronous Serial Interface Module
- CM11 / CM12 DeviceNet Modules
- CM21 InterBus-S Module
- CM30-Series Profibus Modules
- CM40-Series Modbus Plus Modules
- CM52 Remote I/O Module
- CM80-Series ControlNet Modules
- CM900 / CM1000
- CM1746 RFID Module
- MM80 MicroMux Bus Module
- Any RS232 and RS485 Host

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 Reader/Writer system uses the RF field from the Antenna to power the Tag, eliminating the need for batteries.

The HMS Passive Reader/Writer system is designed to provide cost effective RFID data collection and control solutions to demanding automation applications.

Technical Description

The HMS800 and HMS810 Reader/Writers contain an integrated, ferrite shielded Antenna encased in a NEMA 2 rated plastic housing with a metal backplate. The HMS805 and HMS815 feature a 30mm tubular remote Antenna for reaching restricted locations. The HMS system uses the internationally recognized ISM frequency of 13.56 MHz to both power the Tag, and to establish a radio link to transfer the information.

Integrated Controller and Antenna

The HMS800 and HMS805 Reader/Writers are stand alone units that communicate to the host via an RS232 interface. The HMS800's standard program supports the well established ABx protocol and includes all the command functions for efficient serial and RFID communications.

The HMS810 and HMS815 offer multidrop capabilities, enabling up to 32 of these Reader/Writers to be networked together in slave mode via an RS485 and a proprietary Mux32 communication protocol.

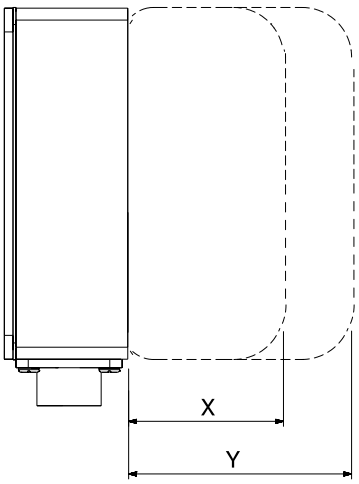
The HMS800-Series Reader/Writers feature built-in CRC error detection and parity checking to provide data security and system confidence.

The HMS-Series Passive Read/Write Tags provide 736 bytes of re-programmable memory, and are specifically designed to communicate to the HMS800-Series Reader/Writers.

HMS800-Series Passive Reader/Writers

Electrical	Supply Voltage	14-30VDC
	Current	300mA
RF Interface	Data Transfer Rate	1000 Bytes/Second
	Error Detection	CRC and Parity Check
	Antenna Type	
	HMS800 / HMS810	Integrated, Ferrite-shielded
	HMS805 / HMS815	30mm Tubular Remote
Serial Host Interface	HMS800 / HMS805	RS232
	HMS805 / HMS815	RS485/Mux32
	Baud Rate	9600 and 19200
Mechanical Specifications	Dimensions (W x H x D)	5.50 x 3.70 x 1.30in. (140 x 94 x 33mm)
	Remote Antenna (Dia. x L)	1.18 x 2.5 (30 x 64mm), Thread Pitch .5mm
	Remote Antenna Cable Length	3.3ft. (1m)
	Weight	19oz. (538g)
Environment	Operating Temperature	32° to 120°F (0° to 49°C)
	Storage Temperature	-4° to 158°F (-20° to 70°C)
	Humidity	90% Non-condensing
	Protection Class	NEMA 2 (IP11)
		NEMA 4 (IP66) - Remote Antenna

Read/Write Ranges



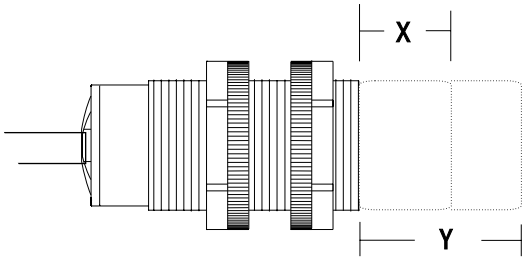
HMS800 / HMS810 Passive Reader/Writers

Reading & Writing Ranges with HMS100-Series Passive Read/Write Tags

	HMS108	HMS112	HMS125(HT)	HMS150(HT)
Typical Range (Y) (inches/mm)*	**	**	1.10/28	2.75/70
Guaranteed Operating Range (X)	**	**	0.87/22	2.20/56

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

** Not recommended.



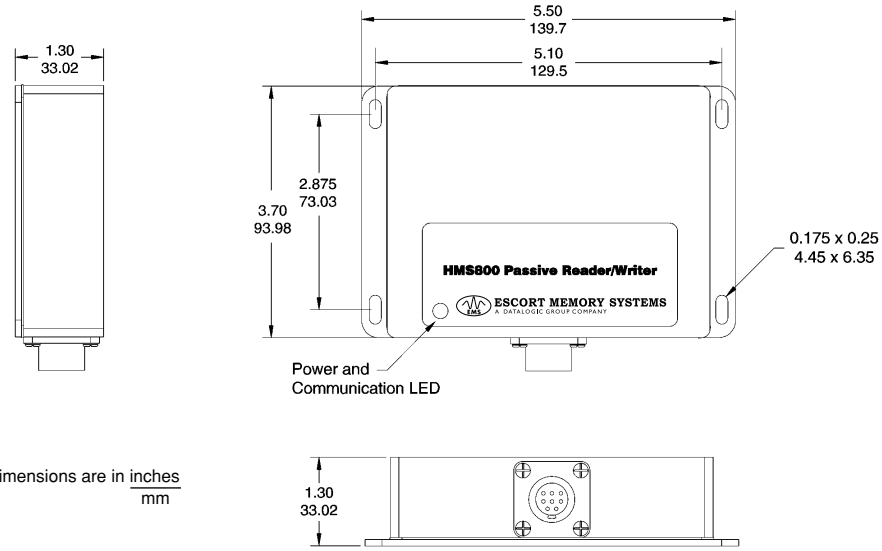
HMS805 / HMS815 Passive Reader/Writers

Reading & Writing Ranges with HMS100-Series Passive Read/Write Tags

	HMS108	HMS112	HMS125(HT)	HMS150(HT)
Typical Range (Y) (inches/mm)*	0.43/11	0.67/17	1.14/29	1.38/35
Guaranteed Operating Range (X)	0.35/9	0.55/14	0.91/23	1.10/28

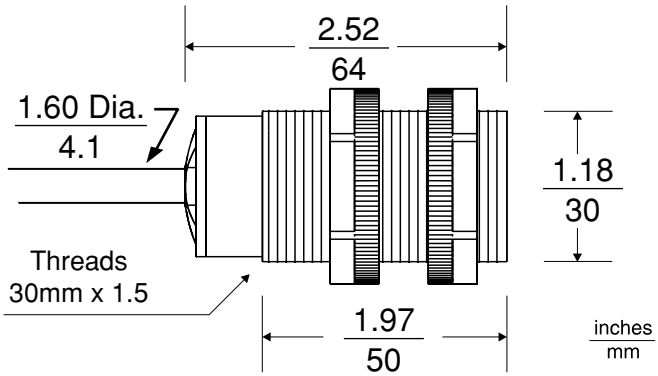
* Proximity to metal, CRT devices and other sources of electromagnetic radiation may affect the range of the Antenna.

Mechanical Dimensions
Reader/Writer



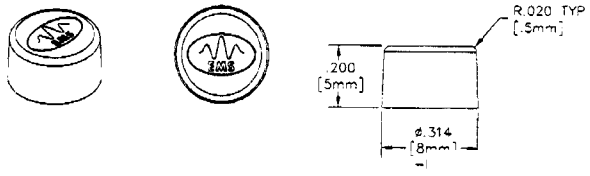
Dimensions are in inches / mm

Mechanical Dimensions
Remote Antenna

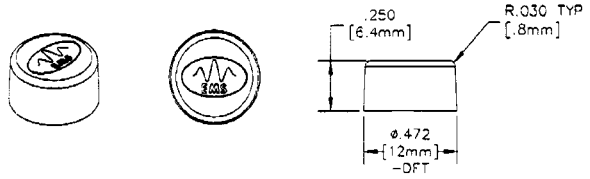


Dimensions are in inches / mm

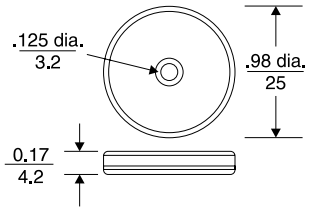
Mechanical Dimensions
HMS100-Series Passive Read/Write Tags



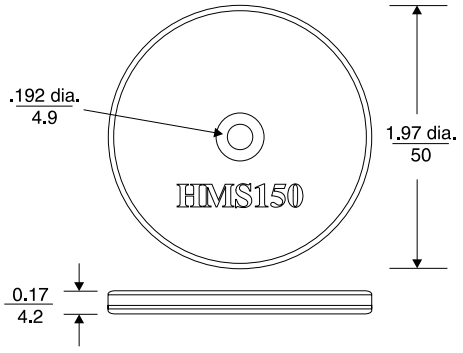
HMS108



HMS112



HMS125/HMS125HT



HMS150/HMS150HT

HMS800-Series Passive Reader/Writers

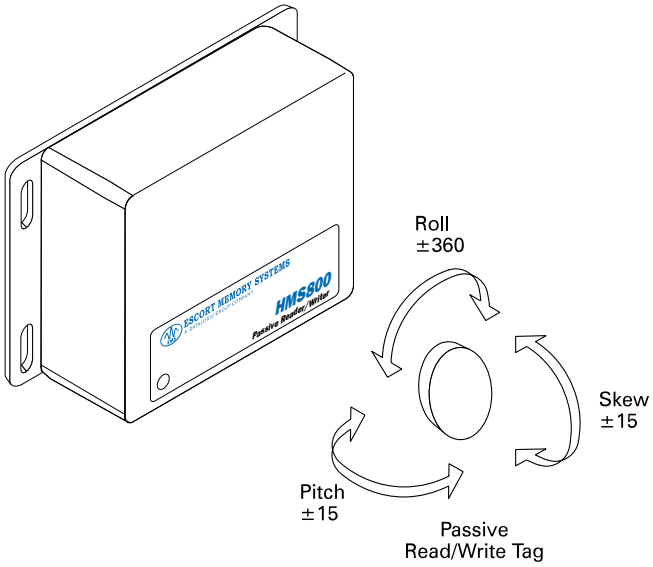
Available Models

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

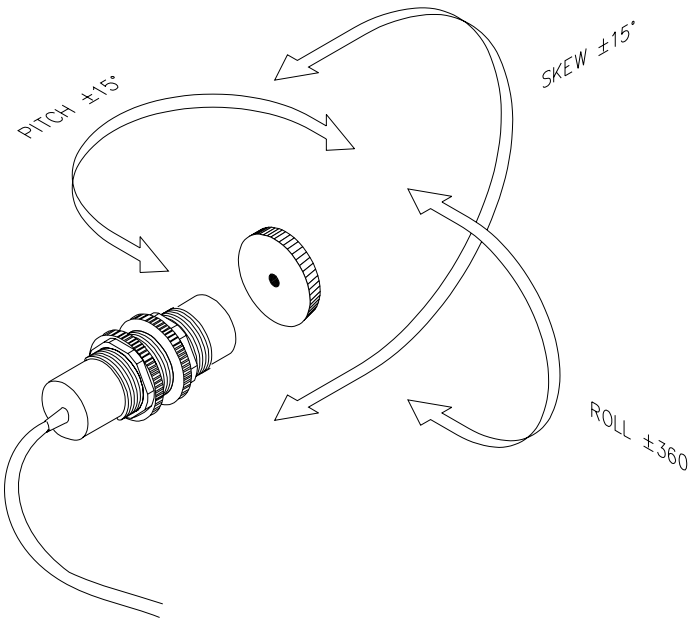
Accessories

68-5001	Crimping Tool for HMS800-Series Mating Connector

Tag-to-Reader/Writer Orientation



HMS800 / HMS810 to Tag



HMS805 / HMS815 to Tag

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

(inches/mm)*

Readers/Writers		Tags HMS108	HMS112	HMS125(HT)	HMS150(HT)
HMS800	Typ.	**	**	1.10/28	2.75/70
	Guar.	**	**	0.87/22	2.20/56
HMS805	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
HMS810	Typ.	**	**	1.10/28	2.75/70
	Guar.	**	**	0.87/22	2.20/56
HMS815	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
HMS814	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
HMS816	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
HMS820	Typ.	**	**	1.10/28	1.97/50
	Guar.	**	**	0.87/22	1.57/40
HMS820-05	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
HMS820-04	Typ.	**	**	0.71/18	1.57/40
	Guar.	**	**	0.55/14	1.26/32
HMS830-04	Typ.	**	**	0.71/18	1.57/40
	Guar.	**	**	0.55/14	1.26/32
HMS820-08	Typ.	**	**	1.18/30	5.00/127
	Guar.	**	**	0.94/24	4.02/102
HMS830-08	Typ.	**	**	1.18/30	5.00/127
	Guar.	**	**	0.94/24	4.02/102
HMS830	Typ.	**	**	1.10/28	1.97/50
	Guar.	**	**	0.87/22	1.57/40
HMS830-05	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
HMS827-Vert.	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
HMS827-Horiz.	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
HMS827-03	Typ.	0.35/9	0.47/12	0.79/20	**
	Guar.	0.28/7	0.39/10	0.63/16	**
HMS827-04	Typ.	**	**	0.71/18	1.57/40
	Guar.	**	**	0.55/14	1.26/32
HMS827-06	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