

# **HMS827-04**

## **Passive Conveyor Reader/Writer**

### **Features**

- Serial Reader/Writer
- Menu Configurable RS232 and RS485 Multidrop Interface
- 1000 Bytes/Second Data Transfer Speed
- NEMA 12 (IP65)
- 24VDC Operation
- 14.5" Wide Reading Field
- Easily Mounts Underneath Conveyor
- No Moving Parts
- Long-Life Passive Tags
- Passive Tag Requires No Batteries

### **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 Interface Modules
- CM900 / CM1000
- CM1746 RFID Module
- MM80MicroMux Bus Module
- Any RS232 or 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!

The HMS827-04 Passive Conveyor Reader/Writer is designed to provide cost effective RFID data collection to demanding material handling and automation applications.

The patent pending design of the Conveyor Reader/Writer addresses a prominent concern which has vexed the material handling industry for years. In the past, the positioning of a Reader/Writer relative to the passing totes was critical. Read/Write ranges had to accommodate different sized totes or the totes had to be positioned to pass near the Reader/Writer. Escort Memory Systems' Conveyor Reader/Writer solves this concern since the Reader/Writer can now be snugly mounted underneath the path of the tote. The 14.5" wide Reader/Writer can substitute a roller's position or may even be installed between the conveyor rollers. Reader/Writer adjustments are a thing of the past, since the Conveyor Reader/Writer can track any size tote/pallet on the same path without time-consuming adjustments.

Equally important, the HMS827-04

Reader/Writer is compatible with Escort Memory Systems' Read/Write HMS100-Series Tags. These Tags are extremely durable, low-cost electronic identifiers that can be attached to any object, even

in the harshest environments. The Read/ Write Tags do not contain moving parts, and provide practically unlimited life with no maintenance requirements. In a typical application, the Read/Write Tag is attached to

a tote/ pallet in a material handling process. Once attached, the Tag allows the RFID Reader/Writer to identify the pallet at any point in the process.

The Passive design of the HMS827-04 Conveyor Antenna uses its RF field from the Reader/Writer to power the Tag, eliminating the need for batteries. The HMS827 Reader/Writer uses the internationally recognized ISM frequency of 13.56 MHz to both power the Tag and to establish a radio link to transfer the data.

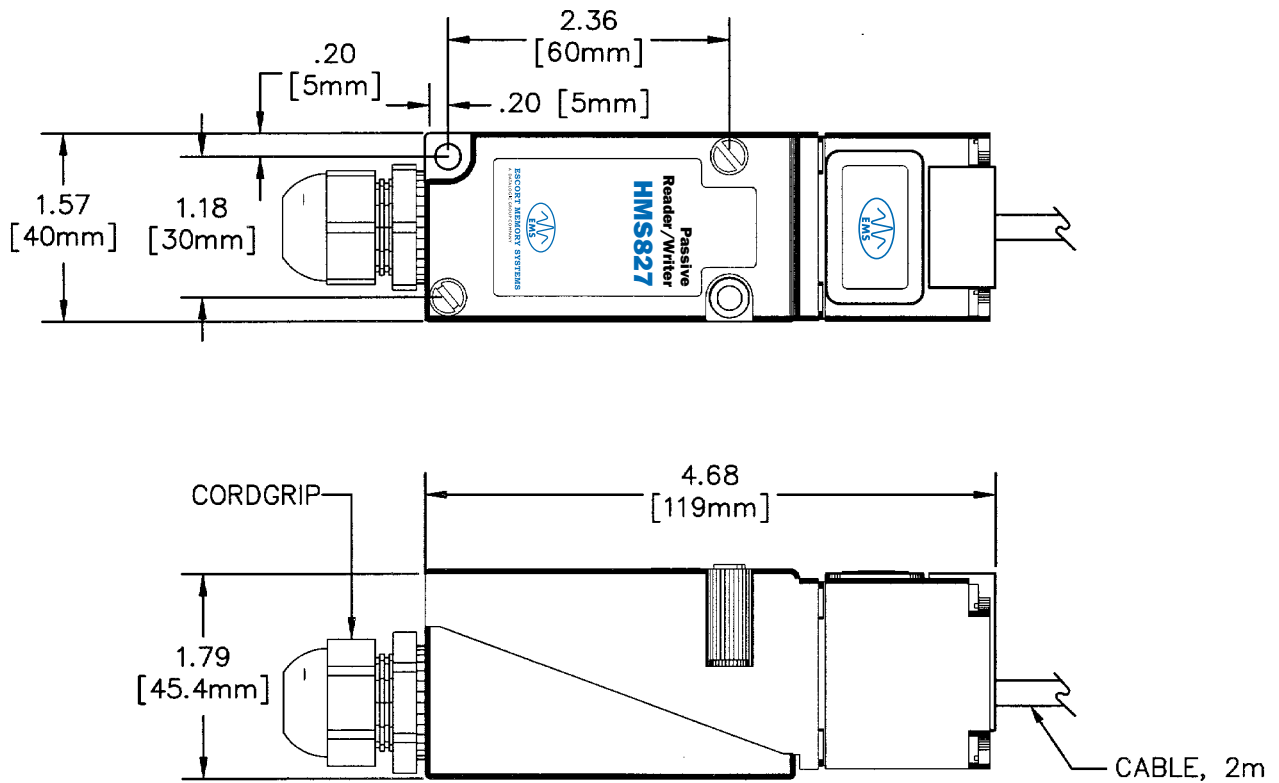
Error checking routines ensure that the Tag data is correctly received by the Antenna even in environments of heavy RF interference. A bi-color (red/green) LED provides continuous operational feedback. The HMS827's small size, multi-drop features and high data transfer speed, combined with a versatile assortment of Tags, provide a powerful solution for any application.

**CONVEYOR  
ANTENNA  
ELIMINATES  
READING  
RANGE  
CONCERNS**

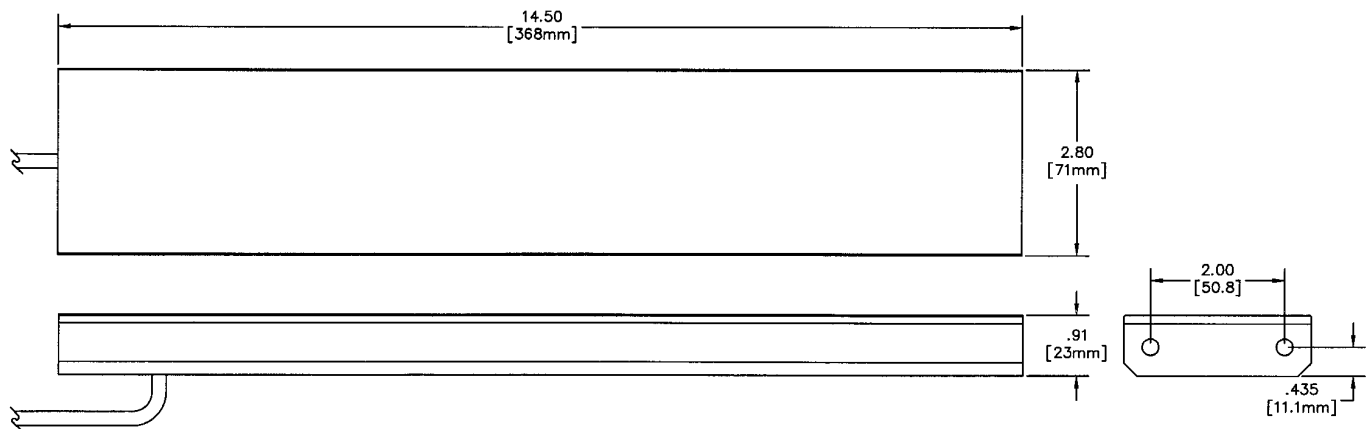
## HMS827-04 Passive Conveyor Reader/Writer

Electrical	Supply Voltage	18-30VDC
	Current	160mA@24VDC (3.84W)
RF Interface	Data Transfer Rate	1000 Bytes/Second
	Error Detection	CRC and Parity Check
	Antenna Type HMS827-04	356mm Rectangular Remote Reader/Writer, 2 Meter Cable
Interface	Serial Host Interface	RS232
		RS485/Mux32
	Baud Rate (RS232)	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
	Baud Rate (RS485/Mux32)	9600 or 346K
Mechanical Specifications	HMS827 (W x H x D)	4.68 x 1.79 x 1.57in. (119 x 45 x 40mm)
	Conveyor Reader/Writer (W x H x D)	14.50 x 2.80 x 0.91in. (368 x 71 x 23mm)
	Mounting	Four 1/4-20 x 3in. Screws Twelve 1/4-20, Hex Nuts
Environment	Operating Temperature	-4° to 120°F (-20° to 49°C)
	Storage Temperature	-40° to 185°F (-40° to 85°C)
	Humidity	95% Non-Condensing
	Protection Class	NEMA 12 (IP65)

## HMS827 Mechanical Dimensions

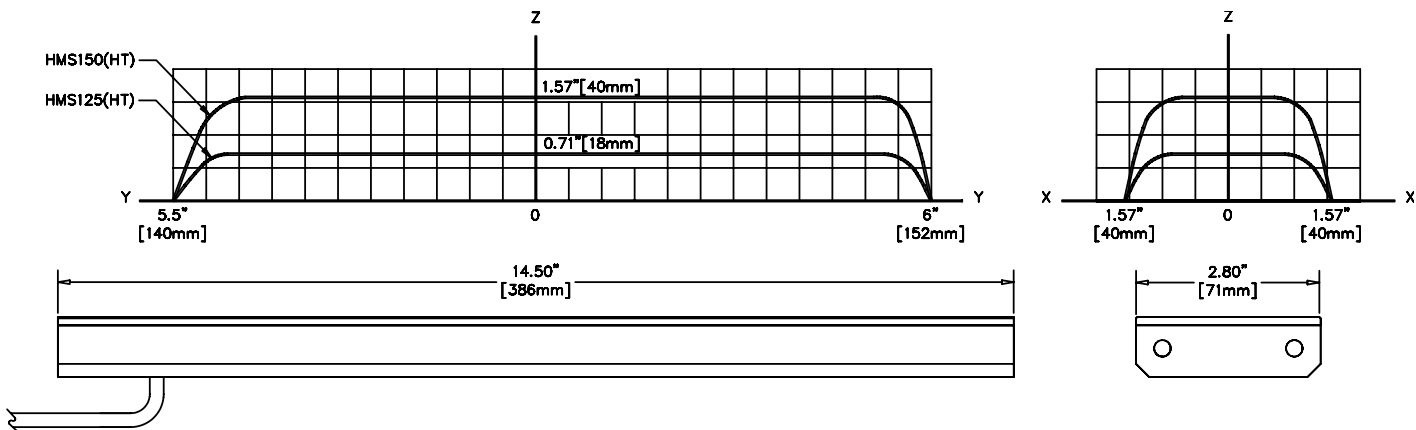


## Conveyor Reader/Writer



# HMS827-04 Passive Conveyor Reader/Writer

## RF Field and Read/Write Ranges



### HMS827-04 Passive Conveyor Reader/Writer Reading/Writing Ranges with HMS100-Series Passive Read/Write Tags

	HMS108	HMS112	HMS125(HT)	HMS150(HT)
Typical Range (Z) (inches/mm)*	**	**	0.71/18	1.57/40
Guaranteed Operating Range	**	**	0.55/14	1.26/32
Reading Field (Y)	**	**	11.50/292	11.50/292
Reading Field (X)	**	**	3.14/80	3.14/80

\* Proximity to metal, CRT devices and other sources of electromagnetic radiation may affect the range of the Antenna.  
\*\* Not recommended.

## Available Models

Model	Description
HMS827-04	Passive Conveyor Reader/Writer



## Passive Read Only Radio Frequency Identification (RFID) Typical & Guaranteed Read Ranges

(inches/mm)\*

Readers	Tags	
	ES620(HT)	ES650(HT)
<b>RS427-01</b> (Vertical Read Head)	Typ. 1.57/40	2.59/66
	Guar. 1.26/32	2.09/53
<b>RS427-02</b> (Horizontal Read Head)	Typ. 1.57/40	2.59/66
	Guar. 1.26/32	2.09/53
<b>RS427-03</b> (Remote 18mm Tubular Antenna)	Typ. 1.77/45	2.76/70
	Guar. 1.42/36	2.20/56
<b>RS427-04</b> (Conveyor Antenna)	Typ. 1.38/35	3.35/85
	Guar. 1.10/28	2.68/68

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## Passive Read/Write Radio Frequency Identification (RFID)

### Typical & Guaranteed Read/Write Ranges

(inches/mm)\*

Readers/Writers	Tags			
	HMS108	HMS112	HMS125(HT)	HMS150(HT)
<b>HMS800</b>	Typ. ** Guar. **	** **	1.10/28 0.87/22	2.75/70 2.20/56
<b>HMS805</b>	Typ. 0.43/11 Guar. 0.35/9	0.67/17 0.55/14	1.14/29 0.91/23	1.38/35 1.10/28
<b>HMS810</b>	Typ. ** Guar. **	** **	1.10/28 0.87/22	2.75/70 2.20/56
<b>HMS815</b>	Typ. 0.43/11 Guar. 0.35/9	0.67/17 0.55/14	1.14/29 0.91/23	1.38/35 1.10/28
<b>HMS814</b>	Typ. 0.28/7 Guar. 0.24/6	0.35/9 0.28/7	0.63/16 0.51/13	0.59/15 0.47/12
<b>HMS816</b>	Typ. 0.28/7 Guar. 0.24/6	0.35/9 0.28/7	0.63/16 0.51/13	0.59/15 0.47/12
<b>HMS820</b>	Typ. ** Guar. **	** **	1.10/28 0.87/22	1.97/50 1.57/40
<b>HMS820-05</b>	Typ. 0.39/10 Guar. 0.31/8	0.59/15 0.47/12	0.91/23 0.70/18	1.38/35 1.10/28
<b>HMS820-04</b>	Typ. ** Guar. **	** **	0.71/18 0.55/14	1.57/40 1.26/32
<b>HMS830-04</b>	Typ. ** Guar. **	** **	0.71/18 0.55/14	1.57/40 1.26/32
<b>HMS820-08</b>	Typ. ** Guar. **	** **	1.18/30 0.94/24	5.00/127 4.02/102
<b>HMS830-08</b>	Typ. ** Guar. **	** **	1.18/30 0.94/24	5.00/127 4.02/102
<b>HMS830</b>	Typ. ** Guar. **	** **	1.10/28 0.87/22	1.97/50 1.57/40
<b>HMS830-05</b>	Typ. 0.39/10 Guar. 0.31/8	0.59/15 0.47/12	0.91/23 0.70/18	1.38/35 1.10/28
<b>HMS827-Vert.</b>	Typ. 0.43/11 Guar. 0.35/9	0.67/17 0.55/14	1.18/30 0.94/24	1.89/48 1.50/38
<b>HMS827-Horiz.</b>	Typ. 0.39/10 Guar. 0.31/8	0.55/14 0.43/11	0.98/25 0.79/20	1.57/40 1.26/32
<b>HMS827-03</b>	Typ. 0.35/9 Guar. 0.28/7	0.47/12 0.39/10	0.79/20 0.63/16	** **
<b>HMS827-04</b>	Typ. ** Guar. **	** **	0.71/18 0.55/14	1.57/40 1.26/32
<b>HMS827-06</b>	Typ. 0.47/12 Guar. 0.39/10	0.59/15 0.47/12	1.06/27 0.87/22	0.83/22 0.70/18

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\*\* Not recommended