

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.

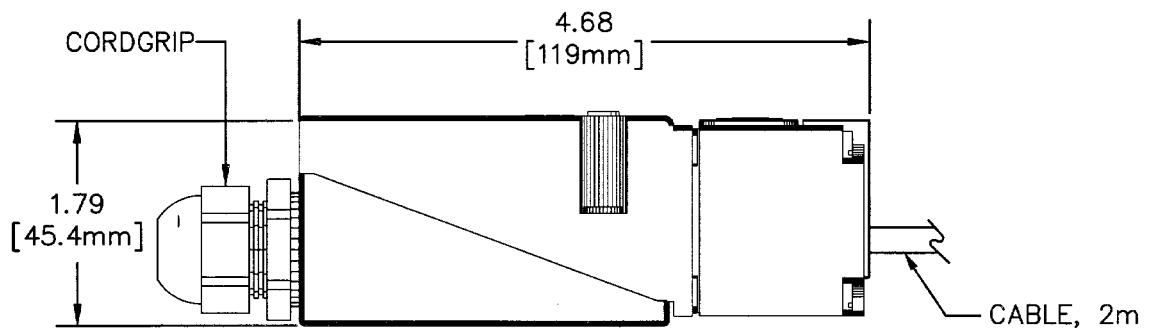
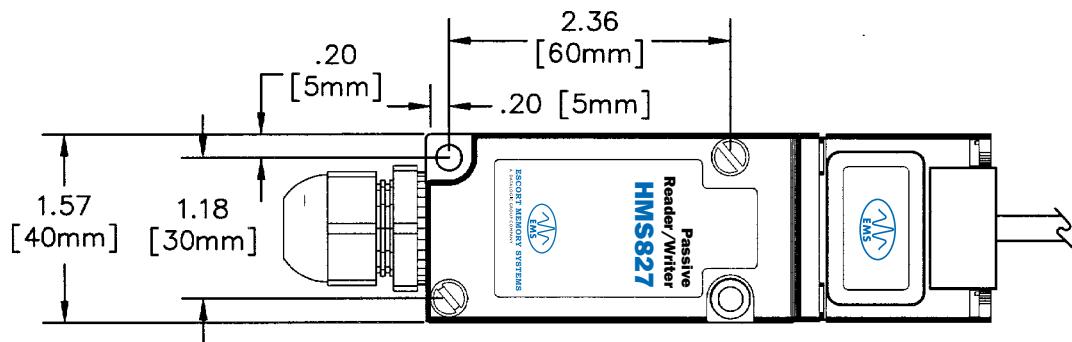
Error checking routines ensure that the Tag data is correctly received by the Antenna even in environments of heavy RF interference. A bi-color (red/green) LED provides continuous operational feedback. The HMS827's small size, multi-drop features and high data transfer speed, combined with a versatile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

CONVEYOR
ANTENNA
ELIMINATES
READING
RANGE
CONCERNS

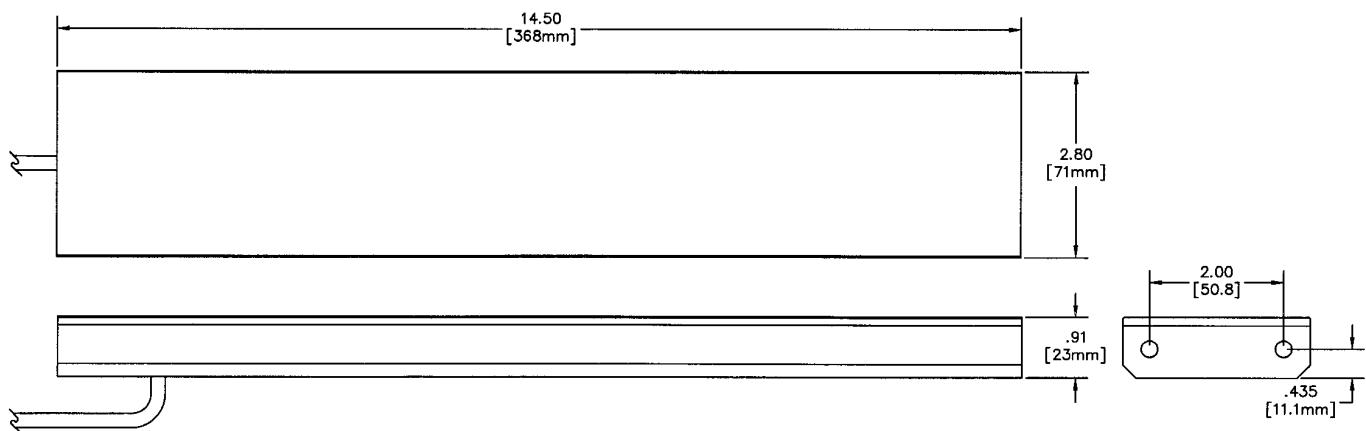
HMS827-04 Passive Conveyor Reader/Writer

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

HMS827 Mechanical Dimensions

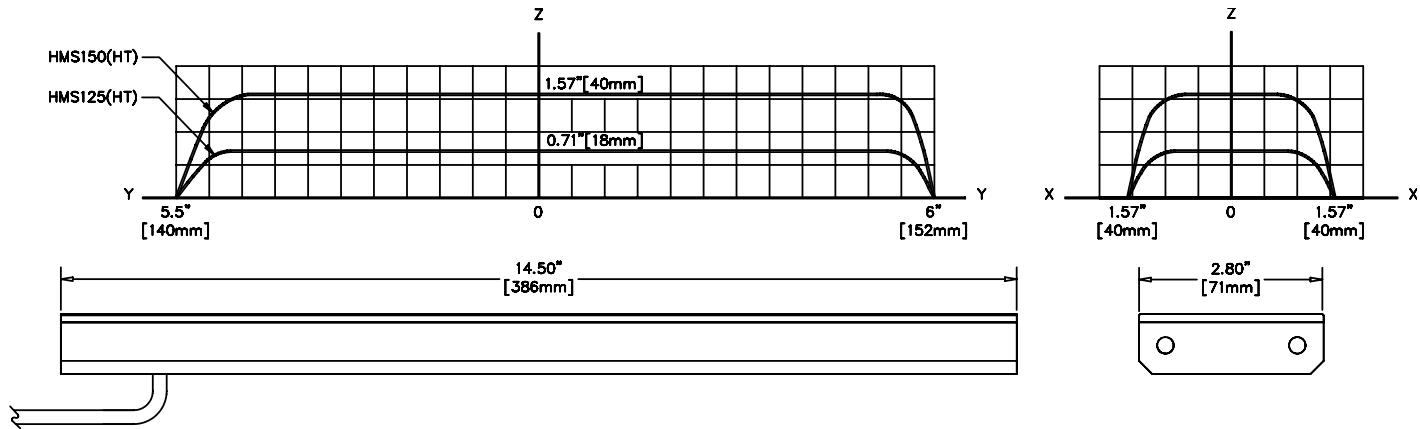


Conveyor Reader/Writer



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

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

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



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. Guar.	** **	** **	1.10/28 0.87/22
HMS805	Typ. Guar.	0.43/11 0.35/9	0.67/17 0.55/14	1.14/29 0.91/23
HMS810	Typ. Guar.	** **	** **	1.10/28 0.87/22
HMS815	Typ. Guar.	0.43/11 0.35/9	0.67/17 0.55/14	1.14/29 0.91/23
HMS814	Typ. Guar.	0.28/7 0.24/6	0.35/9 0.28/7	0.63/16 0.51/13
HMS816	Typ. Guar.	0.28/7 0.24/6	0.35/9 0.28/7	0.63/16 0.51/13
HMS820	Typ. Guar.	** **	** **	1.10/28 0.87/22
HMS820-05	Typ. Guar.	0.39/10 0.31/8	0.59/15 0.47/12	0.91/23 0.70/18
HMS820-04	Typ. Guar.	** **	** **	0.71/18 0.55/14
HMS830-04	Typ. Guar.	** **	** **	0.71/18 0.55/14
HMS820-08	Typ. Guar.	** **	** **	1.18/30 0.94/24
HMS830-08	Typ. Guar.	** **	** **	1.18/30 0.94/24
HMS830	Typ. Guar.	** **	** **	1.10/28 0.87/22
HMS830-05	Typ. Guar.	0.39/10 0.31/8	0.59/15 0.47/12	0.91/23 0.70/18
HMS827-Vert.	Typ. Guar.	0.43/11 0.35/9	0.67/17 0.55/14	1.18/30 0.94/24
HMS827-Horiz.	Typ. Guar.	0.39/10 0.31/8	0.55/14 0.43/11	0.98/25 0.79/20
HMS827-03	Typ. Guar.	0.35/9 0.28/7	0.47/12 0.39/10	0.79/20 0.63/16
HMS827-04	Typ. Guar.	** **	** **	0.71/18 0.55/14
HMS827-06	Typ. Guar.	0.47/12 0.39/10	0.59/15 0.47/12	1.06/27 0.87/22

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** Not recommended