RS427-Series Read Only Readers

Features

- Compact, Versatile Reader
- Menu Configurable (RS232)
- String Configurable (RS485)
- RS485 Multidrop Interface
- RS232 Point-to-Point Interface
- Low Cost
- No Moving Parts

Applications

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

Use With

- ES600-Series Tags
- RS427-10 Read-Only Reader, RS232 Interface Block
- RS427-20 Read-Only Reader, RS485 Interface Block
- CM11 / CM12 DeviceNet Modules
- CM21 InterBus-S Module
- CM30-Series Profibus Modules
- CM40-Series Modbus Plus Modules
- CM52 Remote I/O Module
- CM900 / CM1000
- CM1746 RFID Module
- MM80 MicroMux Bus Module
- Any RS232 and RS485 Host

Escort Memory Systems® (EMS) offers a complete family of field-proven Read Only Radio Frequency Identification (RFID) products and network interface modules. The system consists of Tags, Readers and ancillary equipment. 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 Reader through any non-conductive material while moving or stationary.

The RS427-Series Read Only Readers are extremely compact units housed in a durable, two part ABS plastic enclosure, able to withstand harsh environments. The RS427 is available with a RS485 multidrop interface (Mux32 protocol), or RS232 point-to-point interface, and either a horizontal or vertical read head. The two parts of the RS427, the interface block and the Read head block, are ordered separately to meet the needs of the specific application. The RS427 supports EMS' ES600-Series Read Only Tags and are best used in applications where fixed codes are required and bar code labeling is not appropriate. The Tags contain no moving parts, and provide practically unlimited life with absolutely no maintenance requirements. In a typical application, the Read Only Tag is attached to a pallet or part in a production process. Once attached, the Tag will last the lifetime of the pallet and allow the RFID Reader to identify the pallet at any point.

The small size and industry standard limit switch body of the RS427 Reader makes it ideal for use in factory automation environments where space is at a premium.

The RS427 Reader is the only interface necessary between the user's host computer and the information in the Read Only Tags. The RS232 version communicates through the serial port and features an easy to use set-up menu system. The RS485 version is string configurable through the serial port.

COMPACT READER WITH INTEGRATED ANTENNA

Technical Description

The RS427 interface block contains the power supply, logic, serial interface and the external connections. The Read head block contains the integrated Antenna and the analog transceiver. The built-in Antenna radiates a low frequency, low power signal which is captured by the Tag and used to power the Tag's internal custom IC. The Tag then returns a phase modulated signal containing the information stored in the Tag. Error checking routines ensure that the Tag data is correctly received by the Antenna even in environments of heavy RF interference. The RS427's small size, high performance and flexibility combined with the assortment of Read Only Tags make it a powerful solution to Read Only applications.

RS427-Series Read Only Readers

| Electrical | Supply Voltage | 24VDC ±10% |
| | Current | 150mA |

| RF Interface | Data Transfer Rate | 15msec Per Read |

Interface	RS232	
	Baud Rate	2400, 4800, 9600, 19200
	Parity	Odd, Even, None
	Data Bits	8
	Stop Bits	1
	Max. Cable Length	50ft. (15m)
	RS485 (Mux32)	
	Baud Rate	9600
	Data Bits	8
	Stop Bits	1
	Max. Cable Length	4000ft. (1219m)

| Mechanical Specifications | Dimensions (W x H x D) | 4.68 x 1.79 x 1.57in. (119 x 45 x 40mm) |
| | Enclosure | ABS Plastic |

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)

Read Ranges

RS427-Series Read Only Readers
Reading Ranges with ES600-Series Read Only Tags (inches/mm)*

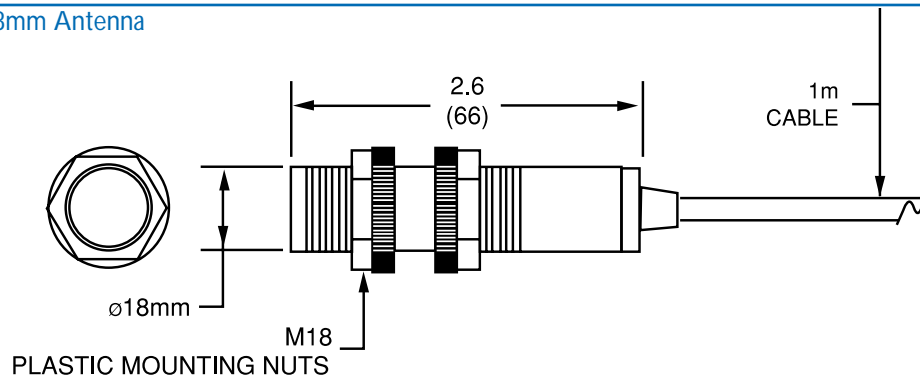| | | Tags | |
Readers		ES620(HT)	ES650(HT)
RS427-01	Typ.	1.57/40	2.59/66
	Guar.	1.26/32	2.09/53
RS427-02	Typ.	1.57/40	2.59/66
	Guar.	1.26/32	2.09/53
RS427-03	Typ.	1.77/45	2.76/70
	Guar.	1.42/36	2.20/56
RS427-04	Typ.	1.38/35	3.35/85
	Guar.	1.10/28	2.68/68

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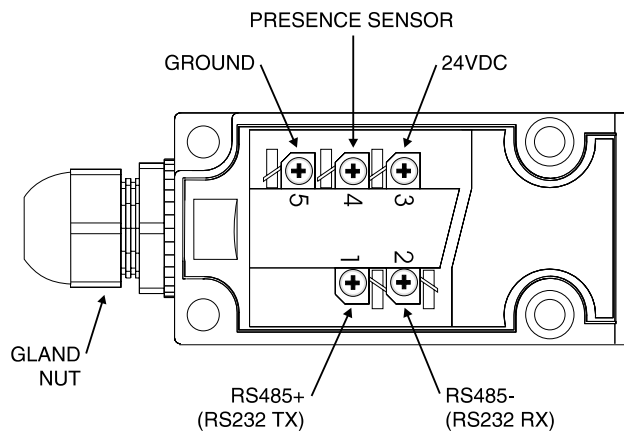
Mechanical Dimensions

.20 [5mm]

2.36 [60mm]

.20 [5mm]

1.57 [40mm]

1.18 [30mm]

RS427
Read Only
Reader

ESCORT MEMORY SYSTEMS

CORDGRIP

4.68 [119mm]

1.79 [45.4mm]

CABLE, 2m
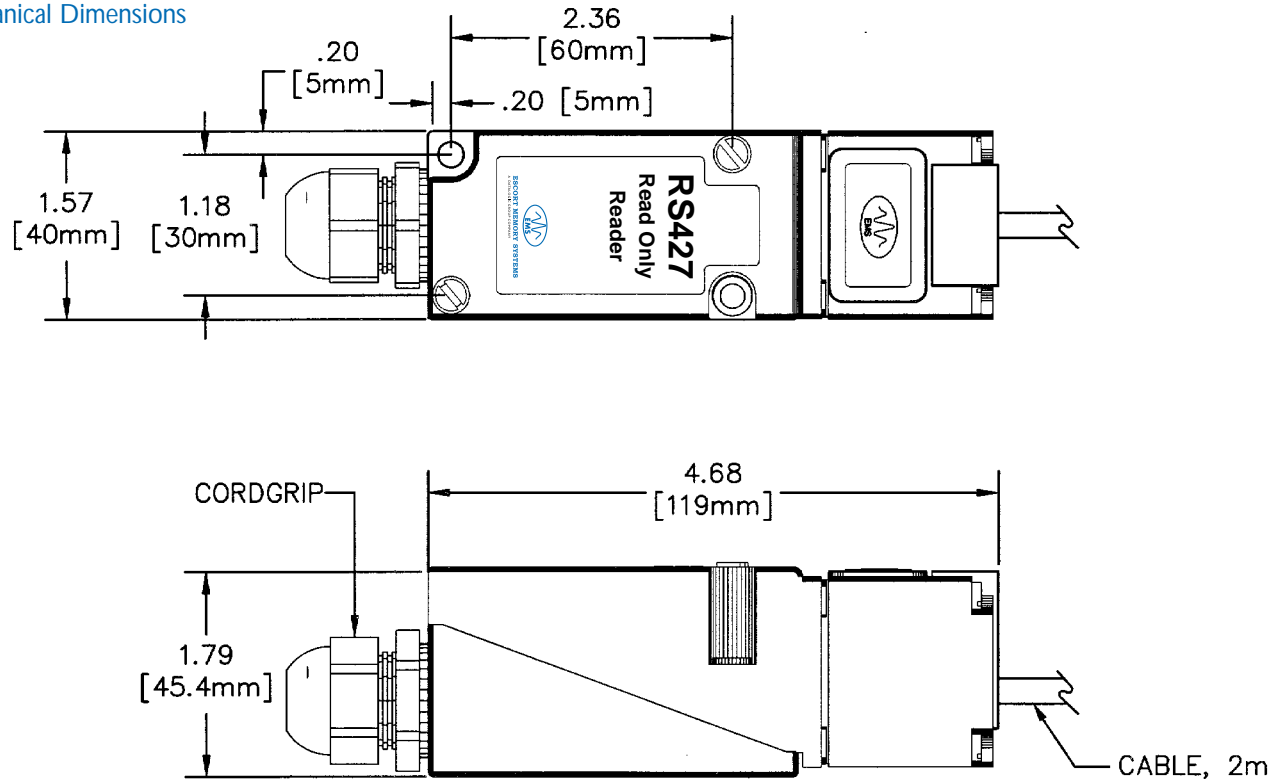
RS427-03 Tubular 18mm Antenna

2.6 (66)

1m CABLE

ø18mm

M18

PLASTIC MOUNTING NUTS

Electrical Connection

PRESENCE SENSOR

GROUND

24VDC

GLAND NUT

5 4 3

1 2

RS485+ (RS232 TX)

RS485- (RS232 RX)

Terminal	Type	RS427-10	RS427-20
1	Output	RS232TX	RS485+
2	Input	RS232RX	RS485-
3	Power	+24VDC	+24VDC
4	Input	Presence	Presence
5	Power	Ground	Ground

RS427-Series Read Only Readers
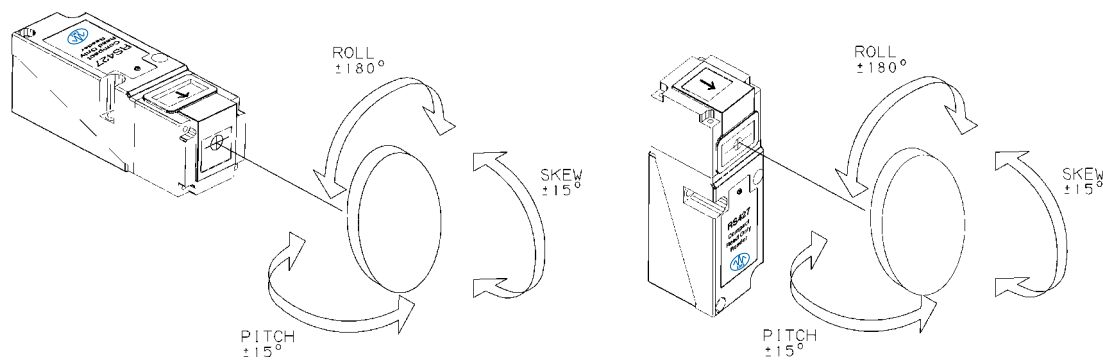
Vertical Read Head　　　　　**Horizontal Read Head**

Available Models

Model	Description
RS427-01	Read Only Reader, Vertical Read Head
RS427-02	Read Only Reader, Horizontal Read Head
RS427-03	Read Only Reader, Remote 18mm Tubular Antenna
RS427-04	Read Only Reader Conveyor Antenna
RS427-10	Read Only Reader, RS232 Interface Controller Block
RS427-20	Read Only Reader, RS485 Interface Controller Block, Requires 00-1066 Programming Cable for Configuration

Accessories

Model	Description
00-1066	Programming Cable for RS427-20, Includes Power Supply and Configuration Software