



ESCORT MEMORY SYSTEMS
A DATALOGIC GROUP COMPANY

ESCORT MEMORY SYSTEMS
FastTrack™
RFID

Long-Range Conveyor Reader/Writers

LRP820-04 / LRP830-04

DeviceNet™

Features

- RFID Conveyor Reader/Writer – Perfect for Material Handling Applications
- Read and Write to Many Tags Simultaneously (Multiple-Tag-In-Field)
- Industrial Strength Reader/Writer (IP66)
- International Recognized Frequency of 13.56 MHz
- RS232/RS422/Mux32 (RS485) Bus Interfaces
- Four Industrial Input Points and Four Output Points
- LRP830-04 Long-Range DeviceNet Conveyor Reader/Writer

Applications

- Paint Ovens
- Parcel/Baggage Handling
- Pallet Tracking

Use With

- FastTrack™ Series Passive Read/Write Tags/Labels/PCBs
- 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 Automatic ID Module
- CM1000 Automatic ID PLC Module
- CM1746 RFID Module
- MM80 MicroMux Bus Module
- Any RS232 or RS422 Hosts

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!

EMS' FastTrack™ line of RFID Tags/Labels/PCBs and Reader/Writers (or Antennas) provides outstanding RFID solutions for demanding industrial environments. From scorching paint ovens to post office parcel tracking applications, the FastTrack™ family of RFID Tags/Labels/PCBs deliver on all of your data collection and tracking demands.

The FastTrack™ Long-Range Conveyor Reader/Writer (LRP820-04) is part of the FastTrack™ RFID family of Reader/Writers. The long-range, read/write capabilities make the Conveyor Reader/Writer ideal for communicating to EMS' FastTrack™ family of Tags/Labels/PCBs.

In the past, the positioning of a Reader/Writer relative to passing totes was critical. Read/Write ranges had to accommodate different size totes or the totes had to be positioned near the Reader/Writer. EMS solves this concern since the Reader/Writer can now be snugly mounted underneath the path of the tote. The 14.5-inch wide Reader/Writer can substitute a roller's position or may even be installed between the conveyor rollers.

The DeviceNet Conveyor Reader/Writer (LRP830-04) provides all the same benefits as the LRP820-04 with the added advantage of an integrated DeviceNet interface module. If your application involves a DeviceNet bus network, and you demand absolute data capture accuracy, then the all-in-one FastTrack™ Long-Range Conveyor DeviceNet Reader/Writer is the perfect solution.



**FIELD-PROVEN
FOR PALLET
TRACKING
APPLICATIONS**

FastTrack™ Long-Range Conveyor Reader/Writers

LRP820-04 / LRP830-04

Electrical	Supply Voltage	18-30VdC
	Power Consumption	31W (1.3A @ 24VdC)
Memory	60KB Program Memory (System) 16KB Data Read/Write Memory 96KB Paged Data Read/Write Memory (32KB x 3)	
RFID Interface	LRP820-04 Long-Range Conveyor Reader/Writer, 2 Meter Cable LRP830-04 Long-Range DeviceNet Conveyor Reader/Writer, 2 Meter Cable	
Interface	<p>COM1 RS232 RS422 Mux32 Bus Interfaces: Mux32 Optoisolated (LRP820-04) DeviceNet Interface (LRP830-04)</p> <p>COM2 RS232</p> <p>Baud Rate RS232/RS422 (COM1) 1200, 2400, 4800, 9600, 19200, 38400 bps RS232 (COM2) 1200, 2400, 4800, 9600, 19200 bps RS485/Mux32 (COM1) 9600 or 346K bps</p> <p>Inputs Four Industrial-Level Inputs Voltage Input Range 4.5 -30VdC Imax 25mA</p> <p>Output Four Industrial-Level Outputs Vmax 30 VdC Imax 500mA</p>	
Mechanical Specifications	<p>LRP820 Dimensions (L x W x H) 8.66 x 4.72 x 3.22in. (220 x 120 x 82mm) Weight 3.5lbs. (1.59kg) Enclosure Cast Aluminum Alloy</p> <p>Conveyor Reader/Writer (L x W x H) 14.50 x 2.80 x 0.95in. (368 x 71 x 24mm)</p>	
Environment	<p>Operating Temperature 32° to 120°F (0° to 49°C) Storage Temperature -41° to 158°F (-20° to 70°C) Humidity 95% Non-Condensing Vibration Resistance IEC 68-2-6 Test FC 1.5mm 10 to 55Hz: 2 Hours each Axis Shock Resistance IEC 66-2-27 Test EA 30g; 11 msec: 3 Shocks each Axis Protection Class NEMA 4 (IP66)</p>	

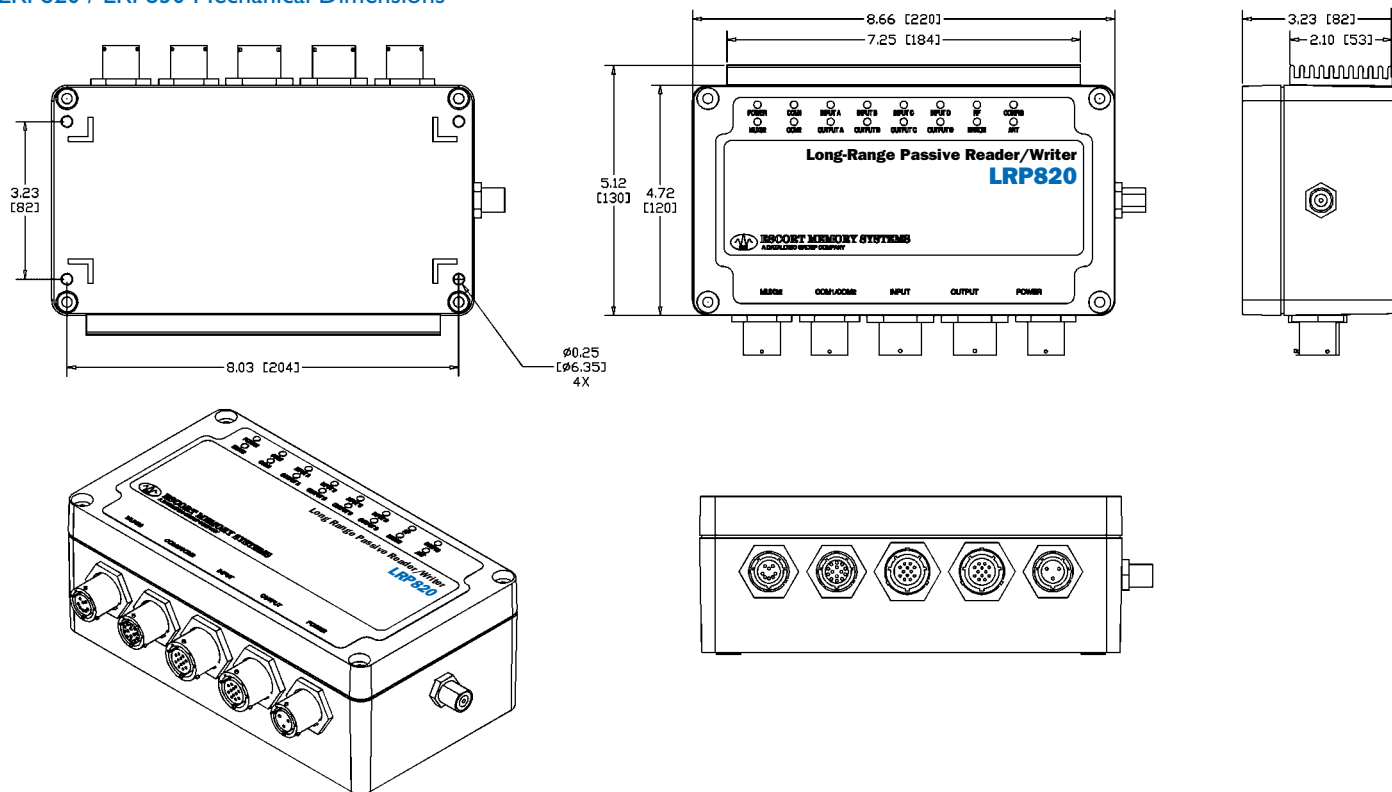
FastTrack™ Long-Range Conveyor Reader/Writers

LRP820-04 / LRP830-04

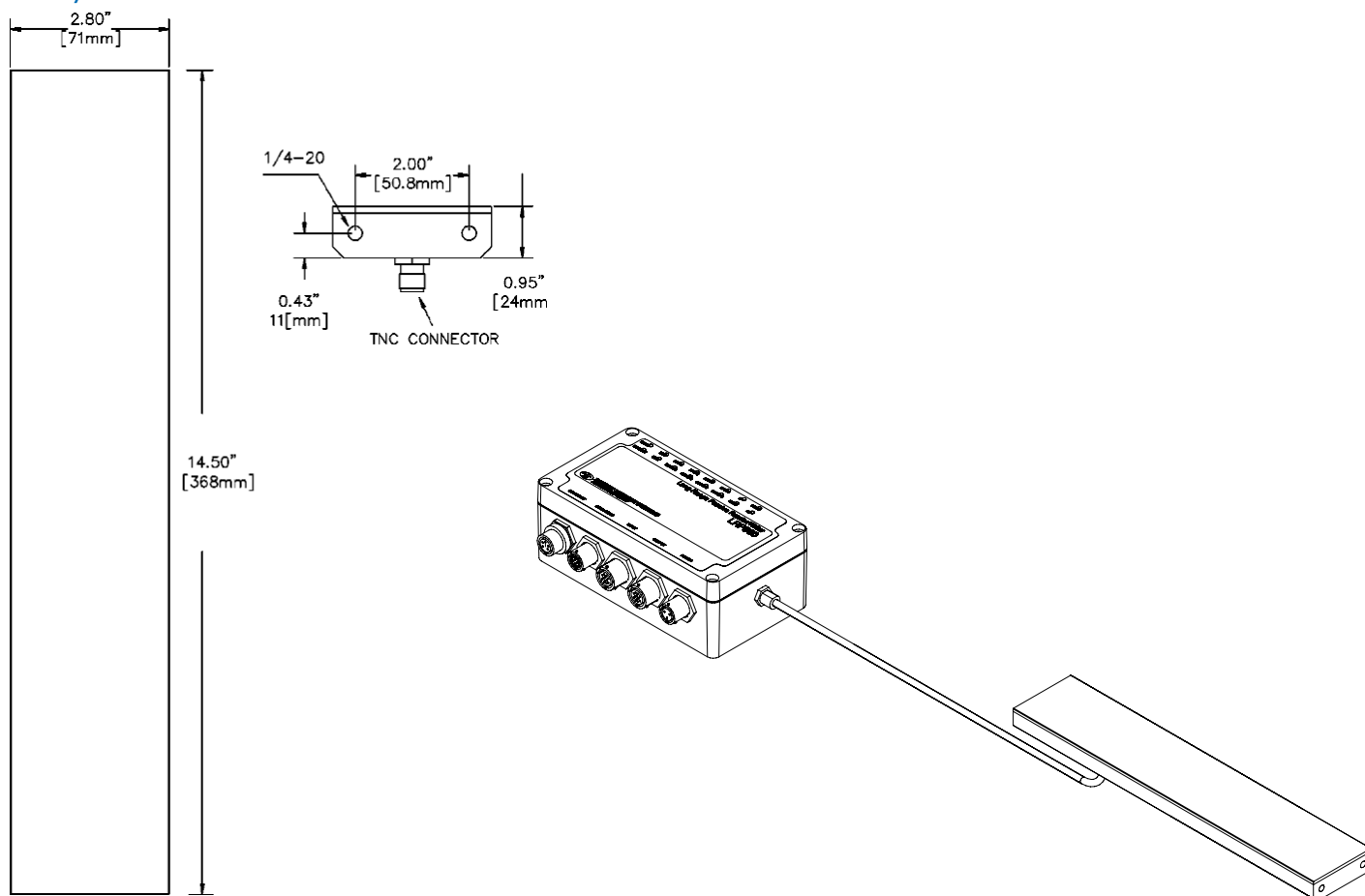
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LRP820 / LRP830 Mechanical Dimensions



Conveyor Reader/Writer Mechanical Dimensions



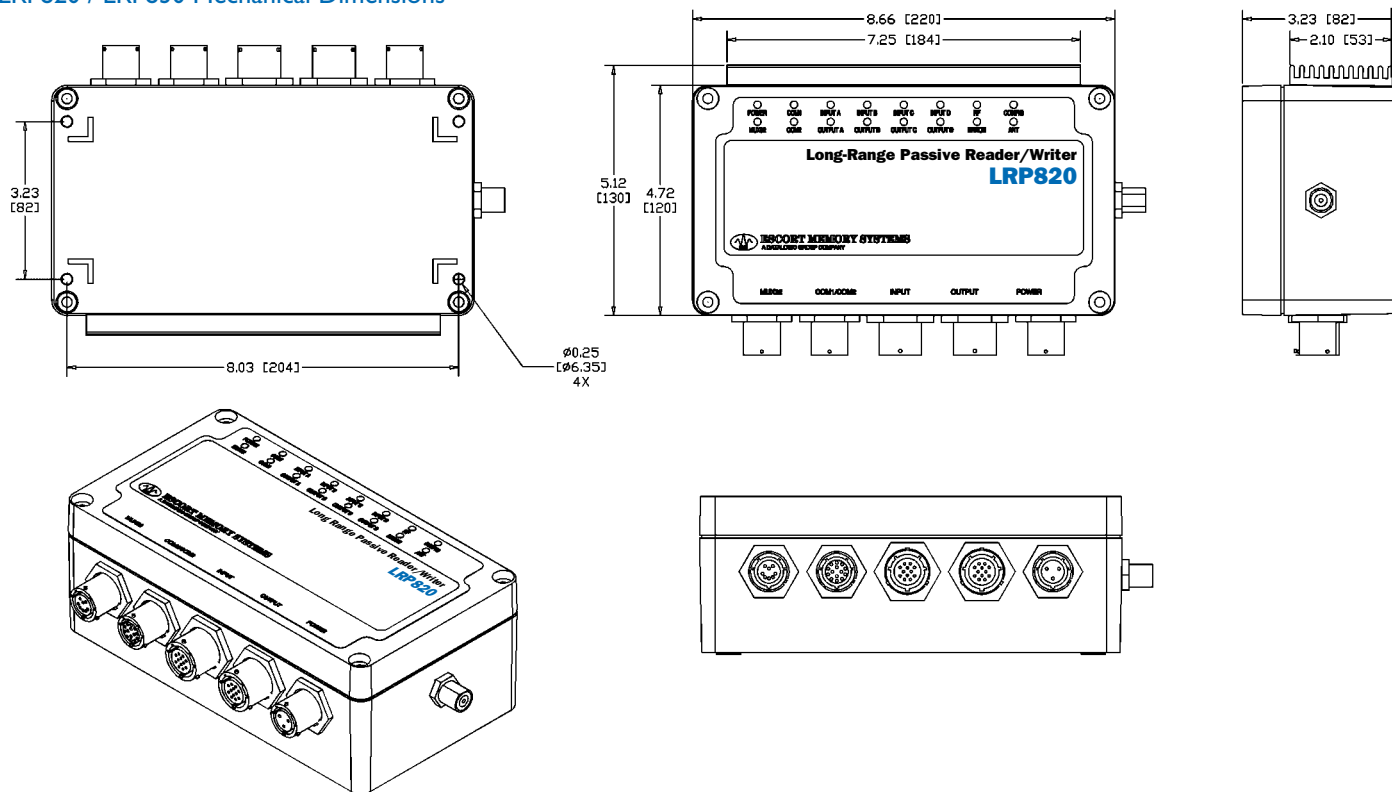
FastTrack™ Long-Range Conveyor Reader/Writers

LRP820-04 / LRP830-04

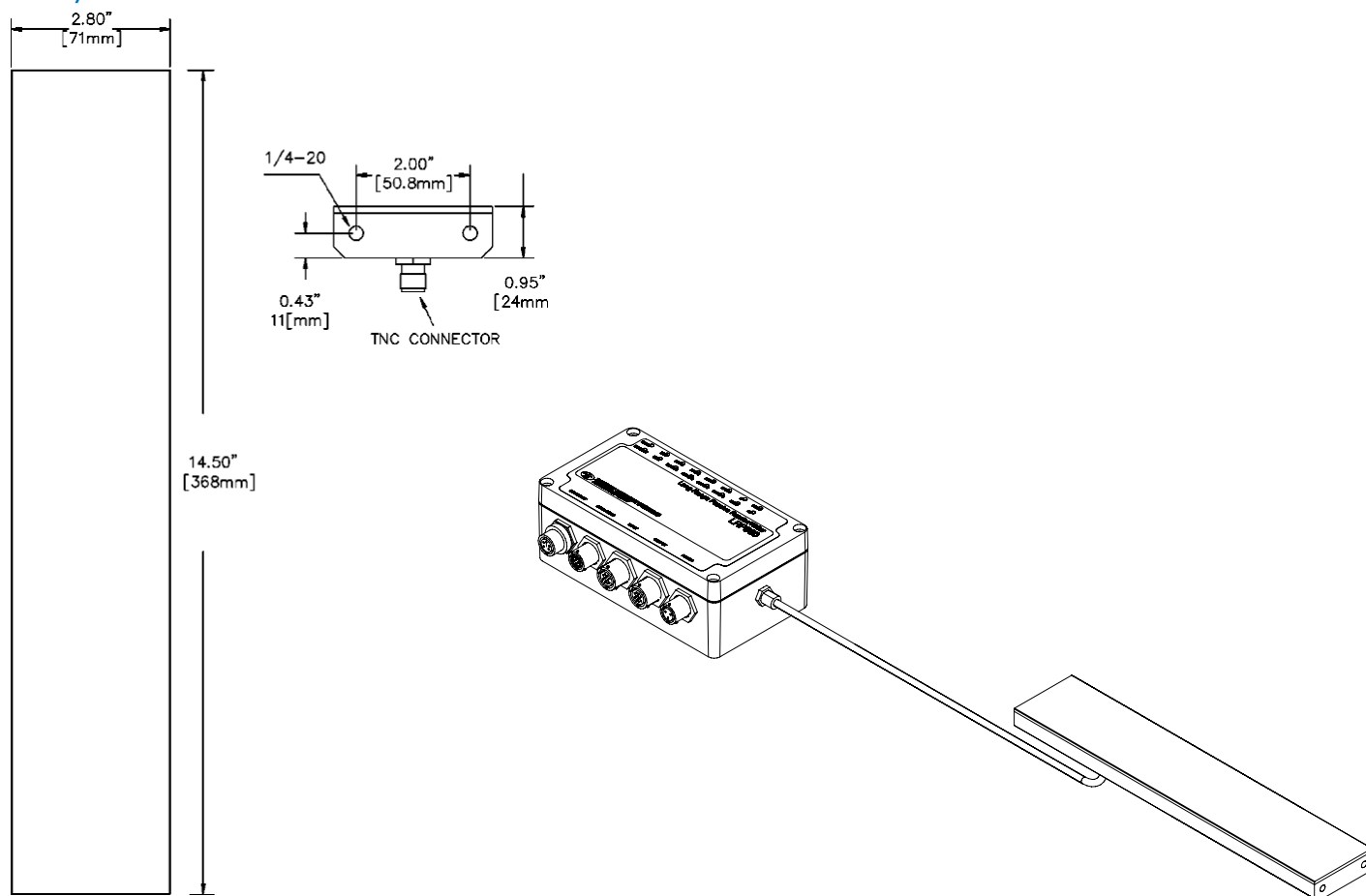
ESCORT MEMORY SYSTEMS

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LRP820 / LRP830 Mechanical Dimensions



Conveyor Reader/Writer Mechanical Dimensions



RFID Field and Read/Write Ranges

LRP820-04 / LRP830-04 Passive Reader/Writers (mounted between metallic rollers)

Reading & Writing Ranges with FastTrack™ Passive Read/Write TAGS

	LRP125(HT)	LRP250(HT)	LRP250HT-FLX
Typical Range (Z) (inches/mm)*	2.50/64	7.00/178	7.00/178
Guaranteed Operating Range	2.00/51	6.00/152	6.00/152

LRP820-04 / LRP830-04 Passive Reader/Writers (free air/non-metallic environment)

Reading & Writing Ranges with FastTrack™ Passive Read/Write TAGS

	LRP125(HT)	LRP250(HT)	LRP250HT-FLX
Typical Range (Z) (inches/mm)*	3.00/76	8.50/216	8.50/216
Guaranteed Operating Range	2.25/57	7.50/191	7.50/191

LRP820-04 / LRP830-04 Passive Reader/Writers (mounted between metallic rollers)

Reading & Writing Ranges with FastTrack™ Passive Read/Write LABELS

	LRP-L5555	LRP-L4982	LRP-L2666	LRP-L90140
Typical Range (Z) (inches/mm)*	7.00/178	7.00/178	6.00/152	9.00/229
Guaranteed Operating Range	6.00/152	6.00/152	5.00/127	8.00/203

LRP820-04 / LRP830-04 Passive Reader/Writers (free air/non-metallic environment)

Reading & Writing Ranges with FastTrack™ Passive Read/Write LABELS

	LRP-L5555	LRP-L4982	LRP-L2666	LRP-L90140
Typical Range (Z) (inches/mm)*	8.50/216	8.50/216	7.00/178	12.00/305
Guaranteed Operating Range	7.50/191	7.50/191	6.00/152	11.00/279

LRP820-04 / LRP830-04 Passive Reader/Writers (mounted between metallic rollers)

Reading & Writing Ranges with FastTrack™ Passive Read/Write PCBs

	LRP-P125	LRP-P3858	LRP-P5050
Typical Range (Z) (inches/mm)*	2.50/64	7.00/178	7.00/178
Guaranteed Operating Range	2.00/51	6.00/152	6.00/152

LRP820-04 / LRP830-04 Passive Reader/Writers (free air/non-metallic environment)

Reading & Writing Ranges with FastTrack™ Passive Read/Write PCBs

	LRP-P125	LRP-P3858	LRP-P5050
Typical Range (Z) (inches/mm)*	3.00/76	8.50/216	8.50/216
Guaranteed Operating Range	2.25/57	7.50/191	7.50/191

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

Available Models

Model	Description
LRP820-04†	Long-Range Conveyor Reader/Writer
LRP830-04†	Long-Range DeviceNet Conveyor Reader/Writer

† Mating Connectors not included. Must be ordered separately (part #00-1122).

Accessories

Model	Description
00-1122	Connector Kit, LRP820, 5 pieces, Mux32, COM1/2, Input, Output, PWR
00-1123	Connector Kit, LRP830, 4 pieces (COM1/2, Input, Output, PWR)
CBL-1452	Cable Assembly, LRP Demo (COM1/2 to DE-9)
CBL-1454	Cable Assembly, Power Supply for LRP Demo
17-1269	Manual, LRP820
17-1271	Manual, LRP830

RFID Field and Read/Write Ranges

LRP820-04 / LRP830-04 Passive Reader/Writers (mounted between metallic rollers)

Reading & Writing Ranges with FastTrack™ Passive Read/Write TAGS

	LRP125(HT)	LRP250(HT)	LRP250HT-FLX
Typical Range (Z) (inches/mm)*	2.50/64	7.00/178	7.00/178
Guaranteed Operating Range	2.00/51	6.00/152	6.00/152

LRP820-04 / LRP830-04 Passive Reader/Writers (free air/non-metallic environment)

Reading & Writing Ranges with FastTrack™ Passive Read/Write TAGS

	LRP125(HT)	LRP250(HT)	LRP250HT-FLX
Typical Range (Z) (inches/mm)*	3.00/76	8.50/216	8.50/216
Guaranteed Operating Range	2.25/57	7.50/191	7.50/191

LRP820-04 / LRP830-04 Passive Reader/Writers (mounted between metallic rollers)

Reading & Writing Ranges with FastTrack™ Passive Read/Write LABELS

	LRP-L5555	LRP-L4982	LRP-L2666	LRP-L90140
Typical Range (Z) (inches/mm)*	7.00/178	7.00/178	6.00/152	9.00/229
Guaranteed Operating Range	6.00/152	6.00/152	5.00/127	8.00/203

LRP820-04 / LRP830-04 Passive Reader/Writers (free air/non-metallic environment)

Reading & Writing Ranges with FastTrack™ Passive Read/Write LABELS

	LRP-L5555	LRP-L4982	LRP-L2666	LRP-L90140
Typical Range (Z) (inches/mm)*	8.50/216	8.50/216	7.00/178	12.00/305
Guaranteed Operating Range	7.50/191	7.50/191	6.00/152	11.00/279

LRP820-04 / LRP830-04 Passive Reader/Writers (mounted between metallic rollers)

Reading & Writing Ranges with FastTrack™ Passive Read/Write PCBs

	LRP-P125	LRP-P3858	LRP-P5050
Typical Range (Z) (inches/mm)*	2.50/64	7.00/178	7.00/178
Guaranteed Operating Range	2.00/51	6.00/152	6.00/152

LRP820-04 / LRP830-04 Passive Reader/Writers (free air/non-metallic environment)

Reading & Writing Ranges with FastTrack™ Passive Read/Write PCBs

	LRP-P125	LRP-P3858	LRP-P5050
Typical Range (Z) (inches/mm)*	3.00/76	8.50/216	8.50/216
Guaranteed Operating Range	2.25/57	7.50/191	7.50/191

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

Available Models

Model	Description
LRP820-04†	Long-Range Conveyor Reader/Writer
LRP830-04†	Long-Range DeviceNet Conveyor Reader/Writer

† Mating Connectors not included. Must be ordered separately (part #00-1122).

Accessories

Model	Description
00-1122	Connector Kit, LRP820, 5 pieces, Mux32, COM1/2, Input, Output, PWR
00-1123	Connector Kit, LRP830, 4 pieces (COM1/2, Input, Output, PWR)
CBL-1452	Cable Assembly, LRP Demo (COM1/2 to DE-9)
CBL-1454	Cable Assembly, Power Supply for LRP Demo
17-1269	Manual, LRP820
17-1271	Manual, LRP830



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

(inches/mm)*

Antennas	Tags		
	LRP820-08 / LRP830-08	LRP820-04 / LRP830-04 without metal	LRP820-04 / LRP830-04 with metal
LRP125(HT)	Typ. 8.00/203 Guar. 7.00/178	3.00/76 2.25/57	2.50/64 2.00/51
LRP250(HT)	Typ. 17.00/432 Guar. 15.00/381	8.50/216 7.50/191	7.00/178 6.00/152
LRP250HT-FLX	Typ. 17.00/432 Guar. 15.00/381	8.50/216 7.50/191	7.00/178 6.00/152
LRP-P125	Typ. 8.00/203 Guar. 7.00/178	3.00/76 2.25/57	2.50/64 2.00/51
LRP-P3858	Typ. 17.00/432 Guar. 15.00/381	8.50/216 7.50/191	7.00/178 6.00/152
LRP-P5050	Typ. 17.00/432 Guar. 15.00/381	8.50/216 7.50/191	7.00/178 6.00/152
LRP-L5555	Typ. 17.00/432 Guar. 15.00/381	8.50/216 7.50/191	7.00/178 6.00/152
LRP-L4982	Typ. 17.00/432 Guar. 15.00/381	8.50/216 7.50/191	7.00/178 6.00/152
LRP-L2666	Typ. 16.00/406 Guar. 13.00/330	7.00/178 6.00/152	6.00/152 5.00/127
LRP-L90140	Typ. 25.00/635 Guar. 22.00/559	12.00/305 11.00/279	9.00/229 8.00/203

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