

# RD5000 Mobile RFID Reader

## MOBILE RFID READERS

### A new class of RFID reader — a new level of visibility

Symbol Technologies introduces the next phase in the evolution of RFID with the RD5000 Mobile RFID Reader. By adding mobility to Symbol's proven fixed reader technology, companies can extend the reach of their RFID network throughout the enterprise environment. Designed for true mobility, the device is cable-free, provides real-time wireless LAN connectivity and has motion-smart features that work together to help conserve battery power. The completely self-contained device offers an integrated battery and antenna as well as a very small footprint for easy installation and deployment. From the warehouse and loading dock to the retail floor and more, the RD5000 increases the level of visibility of inventory and other assets — as well as increases the benefits gained from RFID-enabled real-time information management.

### RFID anywhere

The RD5000 is a wireless, compact mobile RFID reader that can be installed anywhere — on material handling equipment like forklifts and clamp trucks, on mobile carts, portable skate wheel conveyors, or even in hard to reach locations where a cabled reader would not be practical. With the RD5000, assets are easily tracked as it moves throughout the enterprise. The rugged design ensures continuous operation in the most demanding environments, both inside and outside your four walls. The result is a new level of granular real-time information — allowing you to realize a new level of productivity and efficiency throughout your operations.

### In the warehouse

The RD5000 is ideal in the warehouse and distribution center, where its rugged compact design and mobile features are a natural fit for adding RFID capabilities to forklifts, clamp trucks and other material handling equipment. When used in conjunction with a mobile computer such as Symbol's VC5090, a forklift operator who picks up an RFID-tagged pallet for put-away can now receive additional, important information when a tag is read. In addition to the exact location to place the product, the operator can also receive the shortest route to the put-away location, as well as instant notification if the product is placed in the wrong spot. Now, your inventory is placed in the right location, available when needed, and easily visible, which eliminates overstocking due to ordering of product that is not actually needed — but simply misplaced. Products on clamp trucks can be identified, ensuring the right amount of pressure is automatically applied to provide a sure grip — without damage.



## INDUSTRIES & APPLICATIONS

### MANUFACTURING & DISTRIBUTION

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Forklifts</li><li>• Pallet jacks</li><li>• Clamp trucks</li><li>• Rolling ladders</li><li>• Conveyors/Skate wheel conveyors</li><li>• Yards/Gated yards</li><li>• Stretch wrap machines</li></ul> | <ul style="list-style-type: none"><li>• Shipping and receiving</li><li>• Put-away</li><li>• Picking</li><li>• Packing</li><li>• Work-in-process</li><li>• Asset tracking</li><li>• Yard management</li></ul> |
|---|--|

### RETAIL

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Mobile carts</li><li>• Portable skate wheel conveyors</li></ul> | <ul style="list-style-type: none"><li>• Back-room inventory</li><li>• Front-room inventory</li></ul> |
|---|--|

### TRANSPORTATION & LOGISTICS

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Forklifts</li><li>• Pallet jacks</li><li>• Clamp trucks</li><li>• Terminals/yards</li></ul> | <ul style="list-style-type: none"><li>• Shipping and receiving</li><li>• Put-away</li><li>• Picking</li><li>• Asset tracking</li><li>• Yard management</li></ul> |
|---|--|

## On the retail floor

By using the RD5000 on mobile push-carts, retail sales personnel can take a complete inventory of the retail front and back rooms by simply rolling the cart through the store. Real-time inventory data is then available to retail workers on a handheld PDA, such as Symbol's MC50 or MC70, enabling instant inventory checks or analysis of inventory data. Since an accurate inventory can be taken in a mere fraction of the time it would take to manually count inventory, retailers can conduct daily inventories quickly, easily and cost-effectively, providing a new level of insight into inventory metrics. Ordering can be improved since purchase trends are readily visible; seasonal items can be easily identified to ensure replenishment on a timely basis; and more. You can obtain an immediate accounting of new shipments when utilizing mobile carts and portable conveyors equipped with the RD5000 mobile reader. RFID-tagged goods are read in real time as they are transported off the truck and into your facility.

## In a delivery zone

Since the RD5000 is completely cable-free, it can be mounted safely and securely on portable skate wheel conveyors to verify shipment deliveries. The portable conveyor is easily moved from delivery vehicle to delivery vehicle, with the mobile reader providing instant identification of all items within the shipment — without opening the boxes or pallets. Receiving processes are streamlined and accurate.

## In other challenging locations

The self-contained design of the RD5000 is also ideal for stationary deployment in areas previously unsuitable for RFID readers. The compact design can be mounted nearly anywhere, with minimal intrusion in the working area. Built to endure bumps from equipment and rough handling, as well as exposure to dust, water, and grease, it is rugged enough to be installed in the toughest environments and compact enough to fit into spaces where a cabled, stationary reader would just not be practical — such as pallet stretch wrap machines.

## The value of Symbol...a family of solutions

The RD5000 is part of the Symbol family of mobility solutions, designed to seamlessly integrate with Symbol's broad family of products for complete application flexibility. The RD5000 is designed to work with the VC5090 Vehicle/Fixed-Mount Mobile Computer to provide manufacturing, warehouse and distribution centers with a complete forklift solution. It can be used in conjunction with Symbol's mobile or wearable computers to provide an advanced warehouse picking solution — voice, text or a combination of voice and text. And Symbol's wireless LANs set

the bar for performance, providing the robust connectivity you need to ensure constant contact between devices and your business systems for reliable real-time data.

## Easy installation and maintenance

Regardless of where you need additional read points, the RD5000 offers easy and inexpensive installation. No network or power cabling is required, enabling rapid and cost-effective installation nearly anywhere in the enterprise. In addition, advanced power management capabilities ensure that vehicle operators have adequate power for a full shift, eliminating both the need to purchase and manage a large pool of spares, and the time spent away from critical tasks to locate, shut down and change batteries. And with all the components integrated into a single contained unit, from power to the wireless network connection, maintenance is simple and easy — no need to worry about managing power or network cables.

## Maximize ROI for your RFID system

By increasing the functionality in your RFID system, the RD5000 enables you to get the most from your RFID implementation through a new level of product visibility, process automation, and error proofing that maximizes your return on investment. An exceptional investment, the device can be easily moved and temporarily mounted from one application to the next — from skate wheel conveyor receiving to pallet jack storage to mobile cart inventory — providing the flexibility to meet multiple and temporary RFID needs throughout the enterprise. Your expanded view of operations enables tighter management control. Present staff can accomplish more throughout the workday, better controlling labor costs. Improved inventory visibility enables a reduction in stocking inventory, as well as in the associated costs and space requirements. And the rugged design ensures maximum uptime — and a low total cost of ownership.

## Expanded visibility ... and a world of benefits

The ability to extend the reach of RFID in the enterprise with real-time transmission of information via your wireless LAN enables immediate inventory visibility whenever movement takes place. At any point in time, you know where product is and how many steps were taken in its journey. By extending RFID to new areas of the enterprise, you have the power to streamline additional operations and eliminate any associated pen-and-paper based processes. The result is a reduction in holding inventory, an increase in the speed at which product moves through your supply chain, and an elimination of stock outs — contributing to faster revenue growth, a healthier bottom line and more satisfied customers.

## Total integration support for emerging technologies

As a leader in RFID technology, Symbol has the knowledge and industry expertise needed to successfully implement the RD5000 in your organization. Symbol services span the entire solution lifecycle — from initial assessment, commissioning and rollout through ongoing training and support — to provide maximized uptime and productivity and ensure a seamless connection to your mobile enterprise. The RD5000 offers a new level of business information delivering true business value and true business advantage.

For more information on how the RD5000 can enrich your RFID system, contact us at +1.800.722.6234 or +1.631.738.2400, or visit us on the Web at [www.symbol.com/RD5000](http://www.symbol.com/RD5000)



**RD5000 Mobile RFID Reader accessories**



**The integrated self-contained battery provides the on-board power source required to enable mobility. In addition, for stationery installation in challenging locations, it eliminates the need to run power cabling, as well as the associated expense.**

FEATURES	BENEFITS
100% free of network, power and antenna cables	Enables the implementation of RFID read points in new areas of the enterprise; expands visibility of product movement; enables new productivity-saving applications
Integrated 802.11a/b/g WLAN radios	Flexible, reliable connection with wireless LAN for real-time inventory visibility; features unique to Symbol that deliver superior and reliable wireless connectivity
Integrated Bluetooth®	Enables wireless communication between RD5000 and an on-board vehicle computer for a completely cable-free solution; ensures constant connection to the on-board computer — even in areas where there is no reliable WLAN connection
Integrated rugged antenna	Eliminates need for separate antennas, cables, mounting brackets and connectors to further simplify installation and reduce maintenance
Integrated battery with optional external power source	Self-contained battery power enables true mobility and eliminates the need to run power cabling — and the associated expense; optional external power source available
Interactive sensing technologies: acceleration sensor and proximity sensor	Ability to detect motion of reader to enable a variety of applications — for example, can be used to maximize battery life by enabling the RD5000 to activate RFID operation based on vehicle motion; triggers RFID reads based on proximity to objects, such as pallets
IP66 sealing	Completely sealed against dust and jets of water, ensuring reliable operation in nearly any environment, from the warehouse to the yard and more
Intel® XScale® 624 MHz PXA270 processor; Enhanced memory architecture	Industry standard platform for easy integration into your existing technology environment
Microsoft® Windows® CE 5.0	Advanced operating system provides robust application support
MC9000 series compatible battery and chargers	Significantly reduces investment in batteries and chargers for enterprises that are already using Symbol's MC9000 series mobile handheld computers

# RD5000 Specification Highlights

## Physical and Environmental Characteristics

Dimensions:	7 in. L x 9 in. W x 2 in. H 17.78 cm L x 22.86 cm W x 5.08 cm H
Weight:	3 lbs 10 oz./1.64 kg (includes battery)
Battery:	Removable, rechargeable 7.2 volt Lithium Ion 2200 mAh battery pack, 15.8 watt hours

## Performance Characteristics

CPU:	Intel® XScale® Bulverde PXA270 processor at 624 MHz
Operating System:	Microsoft Windows CE 5.0
Memory (RAM/ROM):	64 MB/64 MB
Application Development:	PSDK, DCP and SMDK available through Symbol DevZone Web site

## User Environment

Operating Temperature:	-4° to 122° F / -20° to 50° C
Charging Temperature:	32° to 104° F / 0° to 40° C
Storage Temperature:	-40° to 158° F / -40° to 70° C
Humidity:	5% to 95% non-condensing
Drop Specification:	30 in. / 76.2 cm to concrete
Repetitive Shock:	Over 3,500 70-g shocks and 21,600 60-g shocks
Environmental Sealing:	IP66

Electrostatic Discharge (ESD):	+/-15kVdc air discharge; +/-8kVdc direct/indirect discharge
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## RFID

Standards supported:	EPC Generation 2 UHF
Nominal read range <sup>1</sup> :	10 ft./3.04 m with Symbol RFX6000 4x4 tag optimally oriented
Field:	Half read range beam width: +/- 80 degrees (with tags optimally oriented)
Antenna:	Integrated, circularly polarized, 1.5 dB effective linear gain per axis (nominal); Antenna port for future support of optional external antenna
Frequency range:	902-928 MHz
Output power:	1W conducted (1.4W EIRP with integrated antenna)

## Wireless Data Communications

WLAN:	IEEE 802.11a/b/g
Data Rate:	802.11a: up to 54 Mbps; 802.11b: up to 11 Mbps; 802.11g: up to 54 Mbps
Antenna:	Internal
Frequency Range:	All country dependent: 802.11a - 5 GHz; 802.11b - 2.4 GHz; 802.11g - 2.4 GHz
PAN (Bluetooth Support):	Bluetooth® Version 1.2 with BTE Explorer™ (manager) included

## Peripherals and Accessories

Battery charger:	4-slot batteries only charging cradle
Power supply:	Input: 85-264 V AC; Output: 15 V DC, 5 A

## Regulatory

Electrical Safety:	Certified to UL60950-1, CSA C22.2 No. 60950-1, IEC 60950-1
WLAN and Bluetooth®:	USA - FCC Part 15.247, 15.407; Canada - RSS-210
RF Exposure:	USA - FCC Part 2, FCC OET Bulletin 65 Supplement C; Canada - RSS-102
RFID:	USA - FCC Part 15.247, 15.205, 15.209; Canada - RSS-210
EMI/RFI:	USA - FCC Part 15; Canada - ICES 0003 Class B

## Warranty

The RD5000 is warranted against defects in workmanship and materials for a period of one year (12 months) from date of shipment, provided the product remains unmodified and is operated under normal and proper conditions.

1 - Actual read/write range is dependent upon a number of factors, including the specific tag used, nature of the items tagged, and presence or absence of radio interference.

Note: The contents of this datasheet also apply to Symbol RFID products with the part number prefix RF1224



## About Symbol Technologies

Symbol Technologies, Inc., The Enterprise Mobility Company™, is a recognized worldwide leader in enterprise mobility, delivering products and solutions that capture, move and manage information in real time to and from the point of business activity. Symbol enterprise mobility solutions integrate advanced data capture technology, mobile computing platforms, wireless infrastructure, mobility software and world-class services programs. Symbol enterprise mobility products and solutions are proven to increase workforce productivity, reduce operating costs, drive operational efficiencies and realize competitive advantages for the world's leading retailers, transportation and logistics companies, manufacturers, wholesale and distribution centers, government agencies and healthcare facilities. More information is available at [www.symbol.com](http://www.symbol.com)



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