Intelleflex HMR-9090

Handheld Barcode and RFID Reader

- Industry-leading read/write reliability and performance
- Works with Intelleflex tags to monitor temperature and other conditions inside pallets and containers—without unpacking
- Support for ISO/IEC 18000-6:2010 and EPCglobal C1G2 standards
- Rugged, ergonomic design
- Exceptional ease of use

The Intelleflex HMR-9090 multi-protocol handheld RFID reader provides superior performance and read/write reliability for a wealth of applications. Built with Intelleflex XC3 Technology™, it supports ISO/IEC 18000-6:2010 and EPCglobal C1G2 industry standards. It delivers the ability to read/write in RF-challenging environments including metals, liquids and inside packaging and containers.

With the HMR-9090, your mobile workers have a comprehensive on-demand data capture solution that delivers real-time connectivity for mission critical business applications in warehouses and loading docks, as well as worksite or in-transit environments. With the HMR-9090 and Intelleflex Extended Capability RFID™ tags, you can reliably read and monitor temperature history inside pallets of perishable foods or pharmaceutical packaging—without unpacking or opening the container.

- Perishable food producers, packers, shippers and retailers can easily and cost-effectively track and monitor the temperature of produce on-demand to maximize shelf life and improve quality.

- Pharmaceutical and biologics companies can monitor the temperature inside packaging and containers in transit every step of the way between the factory and the customer to ensure product integrity, efficacy and quality.

- Construction, harvesting and shipping companies can easily monitor assets and products in the field.

The HMR-9090 supports wireless printing and headsets while the ergonomic design provides comfort in scan intensive applications. The HMR-9090's flexible network connectivity and discovery capabilities enable easy integration into existing networks. The multi-user/multi-tasking software supports multiple simultaneous sessions so that applications can interact with the reader, greatly simplifying both system and application design.

Product Features

Advanced Design	**High Monostatic Receive Sensitivity** High read/write accuracy in very challenging RF environments
	FPGA with Embedded Processor Custom designed for high sensitivity; field upgradeable
	Maximum Transmit Output Power Maximum range with passive tags
	Low Power Consumption Suitable for handheld terminal use
Standards	**EPCglobal C1G2** Global interoperability with passive tags
	ISO/IEC 18000-6:2010 Manchester battery assisted passive tags have range over 100 meters
Configurability	**Multiprotocol** Reader supports C1G2 tags and high performance ISO BAP tags
	Performance Profile Tuning Enables performance tuning for speed, range, or balanced mix

The HMR-9090 supports the Intelleflex Family of Tags:

- TMT-8500
- STT-8000
- SMT-8100
- BAT-8300
- FBT-8400

Specifications

Physical Characteristics	**Dimensions**	10.75" L x 4.7" W x 7.7" H (27.3 cm x 11.9 cm x 19.5 cm)
	Weight	35.4 oz / 1 kg (includes battery, scanner, and radio)
	Keyboard	53-key; Terminal Emulation (5250, 3270, VT)
	Display	QVGA color
	Power	Removable, rechargeable 7.2 volt Lithium Ion 2200 mAh battery pack, 15.8 watt hours
Processor Characteristics	**CPU**	Intel® XScale™ Bulverde PXA270 processor at 624 MHz
	Operating System	Microsoft Windows Mobile 5.0/6.1 Premium Edition
	Memory (RAM/ROM)	64 MB/128 MB
	Application Development	PSDK, DCP, and SMDK available through Motorola Developer Zone
	Bar Code Options	2D imaging engine reads symbologies and captures grayscale images and signatures with intuitive laser aiming

User Environment	Operating Temperature	-4° F to 122° F / -20° C to 50° C
	Charging Temperature	32° F to 104° F / 0° C to 40° C
	Storage Temperature	40° F to 158° F / -40° C to 70° C
	Humidity	5% to 95% condensing
	Drop Specification	Multiple drops to concrete: 6 ft/1.8 m across the operating temp range
	Tumble	2000 one-meter tumbles at room temperature (4000 hits)
	Environmental Sealing	IP64 (electronic enclosure, display, and keypad)
	Electrostatic Discharge	+/-15 kVdc air discharge; +/-8 kVdc direct discharge; +/-8 kVdc indirect
RFID	Standards Supported	EPCglobal C1G2, ISO/IEC 18000-6:2010 (Manchester mode BAP)
	Nominal Read Range (C1G2)	0.2 ft to 10 ft / 6 cm to 305 cm
	Nominal Read Range (C3)	0.2 ft to 100 ft / 6 cm to 30 m
	Nominal Write Range (C1G2)	1 ft to 2 ft / 30 cm to 61 cm
	Nominal Write Range (C3)	0.2 ft to 50 ft / 6 cm to 15 m
	Field	70-degree cone (approx.) measured from nose of device
	Antenna	Integrated, linearly polarized
	Frequency Range	US: 902-928 MHz; Europe 865.6-867.6 MHz
	Output Power	US: 1 W (2W EIRP); Europe 0.5 W
	C1G2 PIE Forward Link Tari	25 - 6.25 usec
	C3 Manchester Forward Link Rates	8 - 128 Kbps
	Miller Backscatter Link Frequencies, M Ratio	BLF: 80 - 320 KHz, M: 4 - 128
	Reverse Link Data Rates (BLF/M)	2.5 - 80 Kbps

The TMT-8500 Temperature Monitoring Tag provides the ability to access temperature data on-demand without unpacking pallets or opening containers.

Wireless Data Communication	WLAN	802.11 a/b/g
	Output Power	100 mW (US, International)
	Data Rate	Up to 54 Mbps
	Antenna	Internal
	Frequency Range	Country dependent (802.11a-5 GHz, 802.11b/g-2.4 GHz)
	PAN (Bluetooth Support)	Bluetooth Version 1.2 with BTExplorer (manager) included
Peripherals and Accessories	Cradles	Single-slot serial/USB, 4-slot Ethernet, 4-slot charge only
	Printers	Supports extensive line of printers and cables
	Charger	4-slot universal battery charger
	Other Accessories	Cable adapter module; snap-on magnetic stripe reader; modem module; full set of cables
Regulatory	General	Approved for use in the USA; additional countries in process
	Electrical Safety	Certified to UL60950-1, CSA C22.2 No. 60950-1, IEC 60950-1
	EMI/RFI Radio Versions	US: FCC Part 2 (SAR), FCC Part 15, RSS210 Europe: EN 301-893, EN 300 328, EN60950-1
	Laser Safety	IEC Class 2/FDA Class II in accordance wi/IEC 60825-1, 21CFR1040.10
Warranty		The HMR-9090 is warranted against defects in workmanship and materials for a period of one year (12 months). See Terms of Sale for warranty details.

For More Information

To learn more please visit our website or contact us directly. We look forward to hearing from you.

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Specifications are subject to change without notice.

Ordering Information

Part Number	Description
HMR-9090-US	RFID Reader; North America 902 – 928 MHz frequency band
HMR-9090-EU	RFID Reader; Europe 865.6 – 867.6 MHz frequency band
HMR-9090-CH	RFID Reader; China 920.5 – 924.5 MHz frequency band
HMR-9090-TW	RFID Reader; Taiwan 922 – 928 MHz frequency band
HMR-9090-HK	RFID Reader; Hong Kong 920.5 – 924.5 MHz frequency band