MASTIFF™ Reader

Active RFID Reader
with GSM/GPRS/GPS

for

Tracking and Monitoring

Product Brochure

Confidential and Proprietary Information

Document Revision History

Revision No.	Date	Description/Changes
1.0	21/09/2012	Initial Release

Reindeer

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1. Introduction

Reindeer's Mastiff™ Reader is an Active RFID Reader with GSM, GPRS and GPS tracking which can be used indoors or outdoors to track people, vehicles or assets. This is an ideal device to track and monitor students, employees, workers, visitors inside the buildings or outdoors. The reader collects the tag information from the compatible Mastiff™ active RFID tags through its dedicated RFID reader and updates the server through GPRS.

Mastiff™ Reader can also be used for Fleet Management, Vehicle Tracking, Wireless Sensor Networking and other Machine to Machine (M2M) applications. It's a stand-alone device which tracks the location of the vehicle and communicates to the down-stream software in a seamless way. It also measures other performance parameters such as engine status, door status, vehicle speed, tamper status etc. and sends them to the server along with timestamp.

Mastiff™ Reader is fitted with fully functional GPS tracker and comes with GSM/GPRS connectivity for downs-stream communications. Besides, it has additional power backup which can maintain continuous uptime for 72 hours when external power is disconnected. It also comes with an additional storage of more than 5 GB which can be used as backup communication failures.

Mastiff™ Reader has a robust power supply with surge protection and self-resetting fuse which provides excellent power supply isolation and protects from surges when connected to vehicle ignition or to any external devices. It also has self-healing and self-correcting mechanism which will ensure reliable and continuous operation in the long-run with no manual intervention. The rechargeable backup battery makes the device portable and it comes with complete protection such as reverse polarity protection, surge protection and fuse protection.

Mastiff™ Reader is equipped with intelligent sensors and raises alarm when the device is tampered with or on over speeding and sends real-time notifications/alert to back-end software. It's fitted in a heavy duty ABS material which protects the device from normal wear and tear and comes with a flame rating of UL94-5VA.

Mastiff™ Reader comes with a sleek design and carries a host of LEDs indicators for various functionalities such as GSM/GPRS, GPS, Power Supply/Battery Supply, Low Battery Conditions and Tamper Alarms etc. These will be useful during troubleshooting and periodic maintenance.

Remote management is another important feature of the Mastiff™ Reader which will help installation and maintenance engineers to cut down their time from site visits. Remote management and maintenance will help the engineers to upgrade the device configuration and settings, identification of alert situations, pinpoint the location of the device and monitor the health status of the device.

Mastiff™ Reader also comes with an integrated RFID reader (UHF band) to track the personnel inside the vehicles or to authenticate the drivers to turn ON the ignition and enable automatic door opening and closing. The range of the RFID reader is adjustable and it covers up to 100 meters line of sight.

Mastiff™ Reader comes with a small form factor, light-weight and carries an excellent appeal. It complies with standards such as EMI/EMC, FCC and CE making it fully qualified for international deployments with minimum changes.

2. Features

The features of the Mastiff™ reader are listed below:

- Input Voltage: Wide voltage input range (9V to 36V) with built-in ON/OFF power
- GSM/GPRS: Quad-band GSM/GPRS multi-slot class 10, Downlink (max) – 85.6 kbps, Uplink (Max) – 42.8kbps
- GPS: GPS receiver with high sensitivity up to -160dBm
- Backup Battery: 5.2 AH battery backup with up to 96 hours backup for Continuous Operation
- Memory: Extended Memory Storage up to 5 GB
- Alerts: Tamper Detection and Notification
- Reliability: True Self-healing and Self-recovering Device from any fatal errors
- Power Supply Protection: Capable of withstanding surges and voltage spikes of 6 KV. Protected by Self-resetting Fuse
- Remote Management: Over-the-air Device Configuration
- Compliance: EMI/EMC, FCC and CE Standards
- Device Access: Mini USB for device configuration, site maintenance and troubleshooting
- ADC:3 Analog and 3 Digital Channels for interfacing external devices
- LED Indications: GPRS, GSM, GPS, Direct Power, Battery Backup, Self-healing Status Indications
- Security: 128-bit AES Security for data communications
- Data Format for down-stream communications: XML Format
- List of Alerts:
  - Vehicle battery disconnection alerts
  - Monitors Vehicle Battery Voltage Levels
  - Monitors door ajar warnings
  - Monitors Engine ON/OFF status
- Integrated Sensors:
  - Accelerometer for harsh braking detection
  - Tamper detection
- Active RFID Reader:
  - Long range, high performance RF transceiver Module in 865 to 870 MHz and 902-928 MHz
- Software: Bundled with a user configuration software to configure the device settings
- CAN Interface: CAN interface for data acquisition from vehicle on-board computer
- MODBUS Interface: Compatible with external device with RS485 communication
- Digital Inputs: Monitor isolated digital inputs wide range up to 30 volts
- Analog Inputs: Monitor analog inputs 3/10/30 volts
- Optional Features: Integrated with active RFID reader (UHF band) for student tracking/ Driver identification
- Other Features: Hooter for deterrence

3. Application Areas

- Student Tracking and Monitoring
- Vehicle Tracking Systems
- Asset tracking
- Internet Gateway for Wireless Sensor Networks
- Machine to Machine Communication (M2M)
- Remote Monitoring Applications
- Telemetric applications

4. Ordering Information

Product part Number	Description
MASTIFF_RDR_INDOOR	Mastiff™ Reader with GSM/GPS/GPRS and Active RFID for tracking and monitoring inside the buildings
MASTIFF_RDR_OUTDOOR	Mastiff™ Reader with GSM/GPS/GPRS and Active RFID for tracking and monitoring in outdoor

5. Contact Us

12.1. Technical Support

Reindeer Technologies Pvt. Ltd. has built a solid technical support infrastructure so that you can get answers to your questions when you need them.

Our technical support engineers are available Mon-Fri between 9:30 am and 6:00 pm Indian standard time. The best way to reach a technical support engineer is to send an email to *support@reindeersystems.com*. E-mail support requests are given priority because we can handle them more efficiently than phone support requests.

12.2. Sales Support

Our sales department can be reached via e-mail at *sales@reindeersystems.com* or by phone at 91-44-45022335/42606907.

Our sales department is available Mon-Fri between 9:30 am and 6:00 pm.

Reindeer Technologies Pvt Ltd

Excellence through Innovation™

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