CONFIDENTIAL & PROPRIETARY

C005 v.0r1
Modem

USER MANUAL

- SPRS Ready
- Self-contained
- Extended service life
- Highly robust communication protocol

The C005 modem is an autonomous transceiver that is used primarily for the communication of identification, control and management information using RF (radio frequencies). The modem may be used in conjunction with active transponders which may be affixed to assets with which it can communicate in order to collect data.

System description.

PRELIMINARY SPEC

The C005 system has been developed with the goal of providing the following services.

- Data transfer, logging and Telemetry
- Temperature monitoring
- Humidity monitoring
- Automated inventory management
- Automated fleet management
- Stolen vehicle tracking
- Alarm signal communication (CID)

The use of the C005 enables automated and remote data collection. It also offers the ability to control and monitor the property on which our proprietary transceivers are affixed. This monitoring and control is done according to schedules and specific conditions that have been previously established.

The modem operates using a communication protocol that is both highly secure and robust. It contains a proprietary information recovery and patterning encoding.

The C005 was developed in order to minimize the use of space while also minimizing its visibility. This equipment was also developed so that it can operate with great efficiency, thus providing greater autonomy in emergency situations. One of the main criteria for the development was reduced operating cost. This is achieved by virtue of the fact that energy consumption is kept to a minimum by maximizing overall system efficiency.

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Please note: The minimum separation distance between the device's antenna and all persons during normal operation is 25 centimeters.

Warning: Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. Do not attempt to tamper or make any changes to this device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Avertissement RF conformité de l'exposition. L'antenne (s) utilisée pour cet émetteur doit être installée pour fournir une distance de séparation d'au moins 25 cm de toutes personnes et ne doit pas être situé à proximité ou fonctionner en conjonction avec une autre antenne ou émetteur.

Tout changement ou modification non expressément approuvé par la partie responsable de la conformité risque d'invalider l'autorisation accordée à l'utilisateur d'utiliser cet appareil. Les utilisateurs et les installateurs doivent recevoir des instructions d'installation de l'antenne et des conditions de fonctionnement du transmetteur satisfaisant le respect de l'exposition aux RF.

Caracteristics	Advantages	Benefits
Rugged reinforced enclosure	▪ The enclosure is made of molded high density and reinforced fiberglass material.	▪ The enclosure is extremely solid and resistant thus guaranteeing durable protection. The enclosure is also built to withstand elevated temperatures.
Autonomous and automated operation	▪ Our system is the only electronic system for automated identification and management that can operate autonomously.	▪ Remote and autonomous operation helps to reduce overall operating and maintenance costs.
Active LR (RFID)	▪ This system offers the possibility of remotely identifying data in an automated and secure fashion.	▪ Remote and secure data identification and collection provides an independent and covert data flow.
Secure and robust communication protocol	▪ The RF environment is more and more saturated, hence the need for robust communication means.	▪ Data is transmitted using an encoding system that maintains a very high degree of data integrity. It is therefore possible to recover data even in extreme circumstances.

Technical specifications

General information

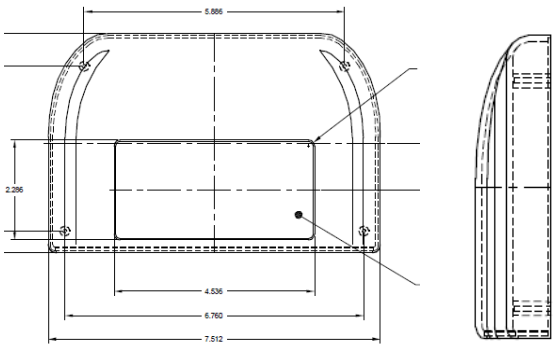
Outside dimensions (Enclosure)

Height : 44.45 mm (1.75 inches)
Width : 190.50 mm (7.50 inches)
Length : 127.00 mm (5.00 inches)
Material : Molded reinforced fiberglass
Color : Light-grey / Beige
Antenna : Rubber duck 1/4

PRELIMINARY SPEC

Battery

Type : LisoC Primary (no maintenance)
Chemistry : Lithium Thyonil Chloride
Charge time : Non-Rechargeable
Capacity-Voltage : 10Ah ~ 14.75Vdc



Operational & Environmental

Operating temp. : -40 +85°C
Environmental protection : IP6x (non-immersed)

Specifications (TX / RX)

Receiver

Span (freq.) : 902.000MHz ~ 928.000MHz
Modulation : SSFH / 2FSK
Sensitivity: -114 dBm

Transmitter

Span (freq.) : 902.000MHz ~ 928.000MHz
Modulation : FH / 2FSK
Encoding : Variable encoding
Output power : 30 dbm

Electrical

Supply voltage (lead in) : N/A (Internal sealed bat pack)
Internal voltage: 3.3Vdc
Electrical consumption: Variable. Peak 0.05%

Certifications

Industry Canada RSS-247 Issue1
FCC (United-States) Part 15 (C)

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