AWID

LR-2000™
UHF Long-Range Reader

AWID's LR-2000™ Long-Range Reader is a UHF tag and card reader used in RFID applications like gate access for vehicles, and physical access for people. Its electronics and antenna are integrated in a single compact enclosure. The LR-2000 is optimally designed for Automatic Vehicle Identification (AVI) and Access Control applications such as gate control in a parking facility. It also provides identification and access for people at doorways, wheelchairs at elevators, and gurneys in hospital entrances. The LR-2000 Reader assures security by use of AWID's proprietary encryption for communications between the reader and its UHF vehicle tags and hand-held cards.

The LR-2000 reader is suitable for outdoor applications. (A protective polycarbonate housing may be required – see Note below.) The LR-2000 offers price:performance advantage over conventional long-range proximity card and active-tag UHF systems. The LR-2000 can be combined with AWID's uAxcess door access readers, allowing the same hand-held cards or tags to be used for both vehicle parking access and access by people at doors in buildings.

The LR-2000 operates in the license-free 902-928 MHz UHF band. It combines effective UHF technology with economical passive tags and cards, programmable read repeat rate and RF field strength, and simultaneous Wiegand and RS-232 data outputs. It can be interfaced with all standard access and AVI systems.

The LR-2000 offers an impressive combination of single unit construction, small size, and attractive appearance. Tag reading distance is commonly up to 25 feet and sometimes more, depending on reader mounting, credential type, and environment.
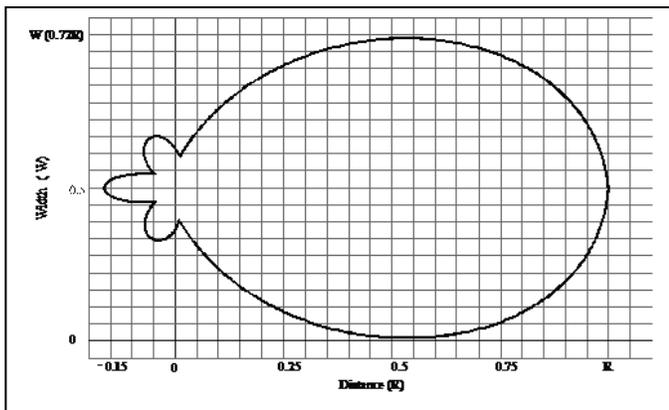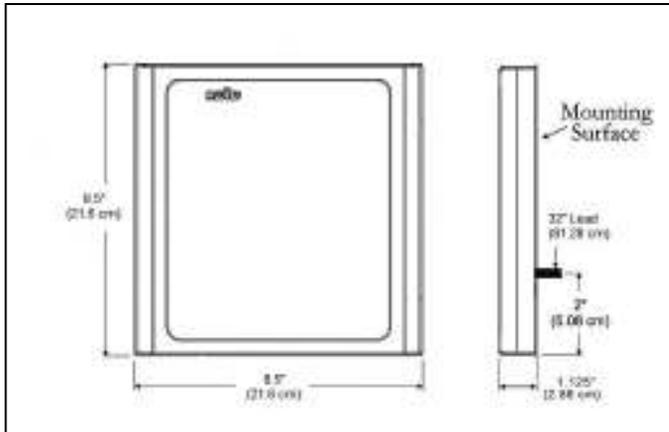
* NOTE: WHEN INSTALLED OUTDOORS AND EXPOSED TO RAIN OR SNOW, OR TO DIRECT SUN IN A HOT ENVIRONMENT, THE LR-2000 READER MUST BE MOUNTED INSIDE A POLYCARBONATE HOUSING WITH MINIMUM IP54 RATING.

FEATURES

- **Longer reading distance** …
  Up to 25 feet between reader and tag
- **Small, attractive reader** …
  Single unit with antenna, 8.5" square
- **Easy reader installation** …
  No reader programming; simple wiring
- **Wide selection of credentials** …
  Varied vehicle tags and hand-held cards
- **Unlimited tag or card life** …
  Passive, battery-free credentials
- **Data output to fit the system** …
  Selectable read repeat rate
- **No interference between readers, no cross-reading between lanes** …
  Programmable RF field strength
- **RF transmission only as needed** …
  Uses vehicle sensor to arm the RF circuit
- **Dual antennas for difficult sites** …
  Optional LR-2000HiLo reader set
- **LR-2000 mixes with other readers** …
  Same code format as proximity readers
- **Easy interfacing to control systems** …
  Both Wiegand and RS-232 data output
- **Complies with certifications** …
  FCC Part 15; IC; RoHS
- **Ideal upgrade from old systems** …
  Hands-free car ID; cards for people ID
- **Eliminates stop-and-wait entry** …
  Cars continue moving past reader
- **For outdoor applications** …
  Housing required for rain and sun *****
- **Easy to buy and own** …
  Installer needs no FCC registration

LR-2000™

UHF Long-Range Reader

ACCESSORIES AND SUPPLIES

· LR Installation Kit -- A **requirement** for all installers. An effective way to demonstrate the LR-2000, to prove its operation, to measure its performance, to locate tags, and to aim the reader. A one-time purchase.

· Power supply -- Each LR-2000 requires a separate, independent, dedicated power supply. Ask AWID for specifications. AWID offers PS-123.3A-0-0.

· Cable for power and data -- Correct cable assures good reader performance. Ask AWID for specifications.

· Protective housing -- To avoid rain, snow, hot sunlight and vandalism, AWID suggests Model PCH196 polycarbonate housing from The Housing Company.

· Mounting devices -- Ask your supplier about brackets, poles, posts, pedestals, clamps, etc.

· System components -- Ask your supplier about the access control package, gates, vehicle sensors, etc.

· Installation & operation – Download additional information from www.AWID.com.

CREDENTIAL OPTIONS   (See Credentials Product Sheets for Full Part Numbers)

· Vehicle-mounting tags -- For permanent or movable applications, inside or outside vehicles. Types of tags are Windshield (**WS-UHF**), Rearview Mirror (**RV**), Sunvisor (**VT**), Sideview Mirror (**SV**), and Metal-Mount (**MT-UHF**). Also Portable Tag (**PT**), Hangtag (**HT**), and Supertag (**ST**).

· Hand-held cards -- For presenting to reader. *Cards*: Clamshell (**CS-UHF**) and Graphics (**GR-UHF**). *Tags*: Keytag (**KT-UHF**) and Hangtag (**HT**). Use these cards and tags also with **uAxcess** readers.

Ask AWID about tag selection and mounting methods.

OPERATING CHARACTERISTICS

Reading Distance:
Up to 25 feet (7.6 meters)

Frequency Band:
902 to 928 MHz
Frequency hopping technology

Antenna Output:
Circular-polarized RF field

Power Supply: *Separate for each long-range reader*
7 to 15 volts DC, linear rated, regulated output
At 12 volts DC, rated for 2 amperes or more
Separate, independent, dedicated to each reader

Communications Protocol:
Wiegand and RS-232, simultaneous

Code Formats:
Determined by AWID's tags & cards,
programmed with 26 bits to 50 bits

Cables: *All cables MUST be overall-shielded*
Power - 2 conductors, 18 gauge, shielded
Data - 3 conductors, 22 gauge, shielded
Stranded, color-coded, not twisted pairs
Up to 500 feet for Wiegand, 75 feet for RS-232

Field-Programmable Features:
Read repeat rate; RF power level

PHYSICAL CHARACTERISTICS

Dimensions:
8.5 x 8.5 x 1.125 inches (21.6 x 21.6 x 2.86 cm)

Weight:
37.5 oz (1.06 kg)

Material (Color):
ABS enclosure (beige); aluminum back-plate

Cable (Integrated with Reader):
10 conductors, 32 inches long
Overall shielded, plastic jacket

Mounting (Supplied by Installer):
Pan & tilt adjustable aiming; min. 6 inches long

ENVIRONMENT

Operating Temperature:
At 50% Duty Cycle -
-35°C to +65°C (-31°F to +150°F)
At 100% Duty Cycle -
-35°C to +45°C (-31°F to +115°F)

Operating Humidity:
0% to 95% non-condensing

Protection Class:
IP54 – Limited protection *

Avoiding Interference:
Avoid RF sources: other UHF readers, UHF communications, arc lighting, electric motors

CERTIFICATION

FCC Part 15; IC; RoHS