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SPECIFICATION






# AR300U-2
# MAG UHF Long Range Reader

GOOD QUALITY & INNOVATION

EXPERT KNOWLEDGE & EXPERIENCE

EXCELLENCE SUPPORT & SERVICE

# AR300U-2 MAG UHF Long Range Reader

## Description

Introducing the AR300U-2, an ultra-high frequency (UHF) long-range Wiegand reader designed for vehicle access control. It boasts a reading range of up to 10 meters, though the actual distance may be influenced by factors such as vehicle solar film, environmental interference, and the card's reading angle.

Built with weatherproof PET material, the AR300U-2 ensures durability in various conditions. Its included mounting bracket simplifies installation, allowing you to easily position the reader for peak performance.

The AR300U-2 provides an affordable yet effective solution for mid-range parking access control systems.

## Features

**Comply to Malaysia regulation**: Malaysia SIRIM have certified AR300U-2 to comply frequency range requirement by MCMC. Certificate is available upon request.

**Less Maintenance**: UHF cards are passive tags which does not require battery.

**Triggered reading**: Reader will only read the card if the trigger signal is enabled. It is recommended to install a loop detector to enable the reader only when there is a vehicle to avoid accidentally reading unwanted cards nearby.

**Intuitive**: LED light at the bottom of the reader. Red light during idle and blue light to indicate a card is read.

**Flexible**: Reader can be easily configured to output Wg26 or Wg34 to easily integrate with any access controller. Configuration can be easily done with an Androird phone app via bluetooth, or through PC software.

**Anti-clone**: The anti-clone version of AR300U-2 is equipped with Xclone dual-encryption technology, ensuring the reader will not read 3rd party and cloned tags for best performance.

**Intelligent Signal Filtering**: Exclusive for Xclone verison only, the ProActiveFilter (PAF) and DeepRead algorithm filter out stray UHF signal to ensure consistent performance in signal-dense environment.

## Parameter options programmable from software:

- WG 26 / WG34 output
- Reading range
- Same card reading interval
- Trigger or Continuous reading mode

## Technical Parameter

| | |
|---|---|
| Description | UHF Wiegand reader |
| Dimension | 215 x 225 x 52mm |
| Frequency | 919 - 923 MHz |
| Data output | Wiegand 26 / 34 |
| Other communication | RS232 serial port |
| Reading range | Approximately 10m in open air |
| Input | DC12V , 2.5A |
| Power consumption | 2W |
| Output power | 30dBm at maximum power, adjustable. |
| Protection | IP56, waterproof and weatherproof for outdoor installation |
| Working temperature | -20 to +70°C |
| Storage temperature | -40 to +85°C |
| Humidity | 0% to 95% (non-condensing) |
| Standards | ISO 18000-6C |
| Net weight | 0.8kg |

## Advisory: EMI Mitigation and Indoor Testing

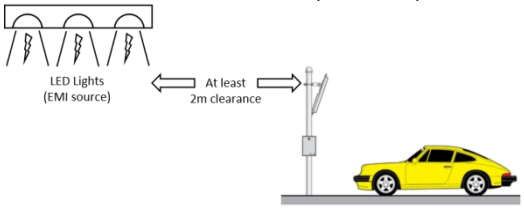
Testing the AR300U-2 in small, enclosed indoor spaces or near sources of EMI interference is generally **NOT** advised, as results may not reflect actual site performance. These EMI noise sources include (non-exhaustive list):

- LED lighting and adapters
- Electrical substation

The reader may fail to read at the specified range when near noise sources because the strong EMI can overload the reader's receiver, preventing it from detecting the tag's reply.

Mitigation Advice:

1. **Reduce Power Temporarily (Testing)**: Temporarily reduce the reading distance/power settings through MAGApp. This allows the receiver to regain sensitivity and successfully read tags.
2. **Maintain Clearance**: Maintain sufficient clearance (min. 2m) from noise sources like LED lightings wherever possible.




For most operational areas without EMI, maximum distance settings should be used for the best range, as localized EMI quickly dissipates.

# MAG UHF Card and Sticker

## Description

CDU Series consists of UHF cards and stickers, typically used with MAG AR300U series Long Range Reader for parking access control.

## Types

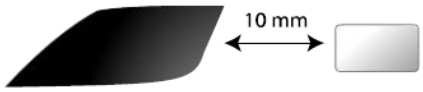
| Model | | Description |
|---|---|---|
| Un-encrypted | Dual-encrypted (XCLONE) | |
| CDUS130L | CDUS133L | UHF Card |
| CDUT131L | CDUT134L | UHF Sticker |
| CDUE130L | CDUE133L | UHF and EM Hybrid Card |
| CDUM130L | CDUM133L | UHF and Mifare Hybrid Card |
| - | CDUD133L* | UHF and Desfire Hybrid Card |

**Available upon request only with extended production lead time.*

## Technical Parameters

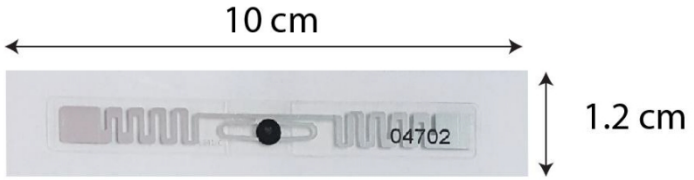
### UHF Card (CDUS, CDUE, CDUM)

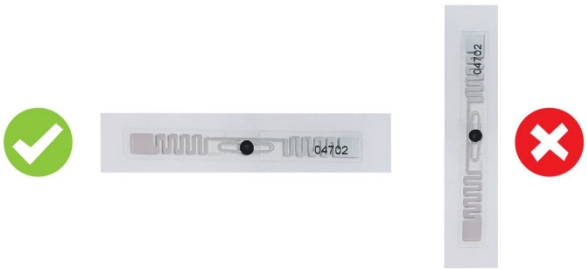
| | |
|---|---|
| RF Characteristics | UHF band<br>Passive; RF Backscatter |
| Read Distance | Up to 10m in free air<br>(Depend on operating environment and windshield solar film) |
| Memory | 64 bits Read only (38 bits Unique ID, 16 bits CRC) |
| Dimension (mm) | 85 (L) * 53 (W) * 1 (Thickness) |
| Operating Temperature | Typically -20°C to 65°C |
| Life | up to 10 years |
| Material | PEC material |




- Maintain a minimum clearance of 10 mm between the card and the windscreen.
- Do not attach the card directly to the windscreen surface.
- Reading range may be reduced if the vehicle is fitted with metal-based solar film (e.g., VKOOL). UHF signals cannot penetrate films containing heavy metal oxide. In such cases, the user may need to lower the window to allow the UHF signal to reach the card.

**UHF Sticker (CDUT)**

| | |
|---|---|
| RF Characteristics | UHF band (902 - 928 MHz) |
| RF Air Protocol | ISO / IEC 18000 |
| Read Distance | Up to 10m in free air (Depend on operating environment and windshield solar film) |
| Memory | UHF 240 bits EPC memory |
| Dimension (mm) | 100 (L) * 12 (H)<br> |
| Operating Temperature | Typically -20°C to 80°C |
| Life | Data retention up to 10 years |




- For optimal performance, the sticker must be installed horizontally.
- Do not place the sticker on a metal surface, windscreen, or near any metallic object, as this will significantly reduce the reading range.

TÜVNORD TUV NORD (MALAYSIA) SDN BHD ISO 9001

STANDARDS MALAYSIA ACCREDITED ACB 005

***Product performances is based on testing in a controlled environment. Your result may vary due to several external and environment factors.**

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