

Rhombus105 Extended Range Reader

Instruction Manual

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1. Introduction

The Rhombus105 is a low cost and high performance proximity reader for reading ID code from uem4100 compatible read-only tags. The Rhombus105 reader features an extended reading range up to 1000mm. It is ideally suited to be applied in automatic parking system, personal identification, access control and production control systems etc.

2. Features

- High sensitivity and reliable performance;
- Built-in transceiver antenna for maximum performance;
- Maximum effective distance up to 1000mm;
- Less than 100ms decoding time;
- Low power dissipation with single power supply;
- Support RS485 interface;
- Built-in buzzer;
- Built-in external LED control;
- Potted for environmental protection.

3. Specifications

Power Requirements	+12Volts linear regulated DC at 200mA typical, 250mA max.
Interface	RS-485
Typical Maximum Read Range in ideal conditions	Range 1000mm with ISO card
Frequency	125KHz typical
Transponder	Read Only
Audio/visual Indication	Buzzer output with external LED control

4. Interface

Color	Description
Red	+12VDC
Black	GND
Green	R+
White	R-
Yellow	External LED control(Internal 2K pulled-up)
Brown	Reserved
Blue	Reserved
Grey	Reserved

5. Trouble Shooting

When powered up, the Rhombus105 take a self-test to ensure the best reading performance with the buzzer beeping continually.When the self-test ends, the buzzer will give out a long beep and the Rhombus105 enter the normal working mode. If the buzzer continue beeping without stop for a long time, please turn off the power and check out the enviroment and power supply to ensure locating the Rhombus105 in a good working condition. In case of problems the following procedure should be followed:

Failure to finish self-test with the buzzer beeping continually or with a short reading distance

- 1) Turn off the power to the Rhombus105;
- 2) Check the power input connections making sure that they are not reversed;
- 3) Check the power supply complying with the specification;
- 4) If the supply has a current limit, set this to 350mA;
- 5) Make sure to install the Rhombus105 in a environment without large area conductors nearby or mounting on a conductive surface. In self-test state, do not apply any tags in Rhombus105’s functional area;
- 6) Try to change the installment of the Rhombus105 to another place to check if the trouble still exists;

Note: Rhombus’ products must work with linear regulated power supply, and other kinds of power supply are prohibited.