Rhombus100D Extended Range Reader

Instruction Manual

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1. Introduction

The RHOMBUS100D is a low cost and high performance proximity reader for reading ID code from uem4100 compatible read-only tags. The RHOMBUS100D 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;
Multiple output format optional;
Built-in buzzer;
Built-in external LED control;
Potted for environmental protection.

3. Specifications

Power Requirements	+12Volts linear regulated DC at 200mA typical, 300mA max.
Interface	RS485
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-
Brown	GND
Yellow	External LED control(Internal 2K pulled-up to +5V)
Grey	GND
Blue	GND

* Baud Rate: 9600, N, 8, 1

STX (02 HEX)	DATA (10 HEX)	CR	LF	ETX (03 HEX)

5. Trouble Shooting

When powered up, the RHOMBUS100D 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 RHOMBUS100D 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 RHOMBUS100D 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 RHOMBUS100D;
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 RHOMBUS100D in a environment without large area conductors nearby or mounting on a conductive surface. In self-test state, do not apply any tags in RHOMBUS100D's functional area;
6) Try to change the installment of the RHOMBUS100D 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.