



## **1W-H3-05 (K)\* M12**

RFID reader | 125 kHz | Unique

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***Product Card***



*\* Letter K refers to a reader with a common cathode.*

## *Before use...*



*Please do not open the reader and do not make any changes. This results in loss of warranty.*



*In case of any questions please contact with us. We certainly answer to all questions and solve possible problems.*



*Please carefully read the following information before connecting the reader.*



*Please keep in mind, that there are factors as metal surfaces, which can affect on radio communication and correct reader operation. It is advisable to consult the mounting conditions before use with our staff.*



*Please contact with us before sending damaged products.*



*We offer possibility to change cable length and terminate it with a plug. Before make an order please contact with us to determine the details.*



## General information

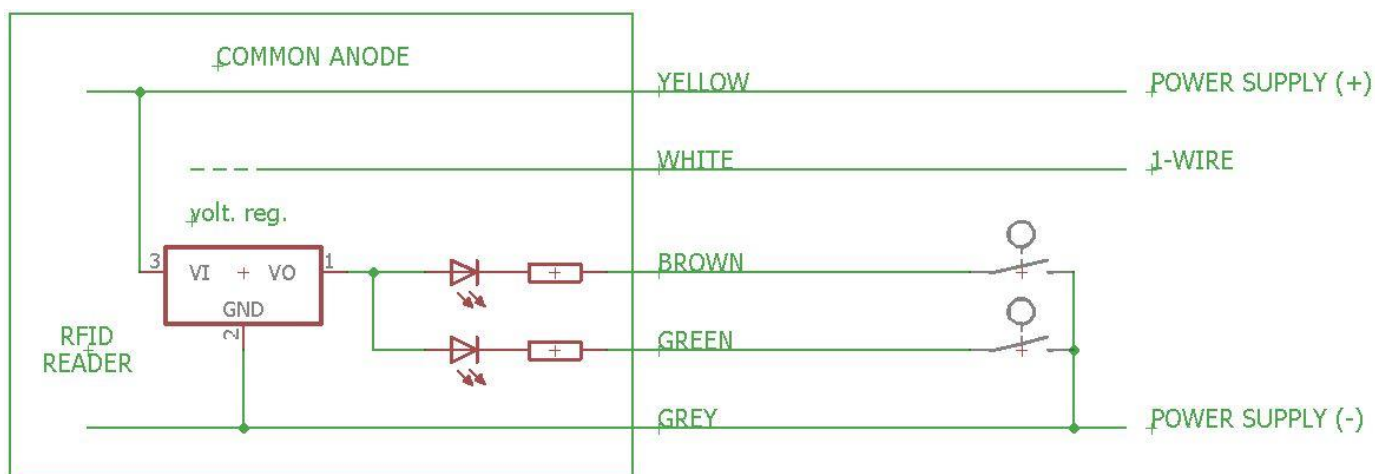
The RFID reader **1W-H3-05 (K) M12** reads identification data wireless of passive transponders (cards, tags, etc.) compatible with UNIQUE standard. The built-in two-color LED for any use.

LEDs are powered by internal voltage regulator via built-in resistor. The light is on when the appropriate LED is connected to the minus of power supply.

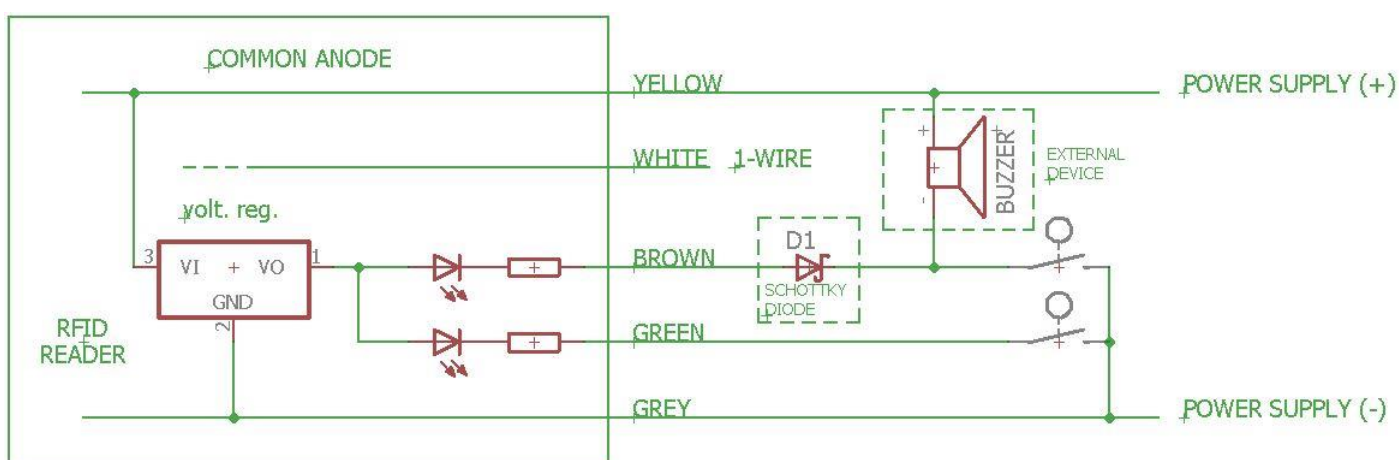
|               |   |                  |                                 |
|---------------|---|------------------|---------------------------------|
| <b>Grey</b>   | - | power supply (-) |                                 |
| <b>Yellow</b> | - | power supply (+) |                                 |
| <b>Green</b>  | - | green LED        | cathode (anode for „K” version) |
| <b>Brown</b>  | - | red LED          | cathode (anode for „K” version) |
| <b>White</b>  | - | 1-Wire           |                                 |

The reader should be connected according to the scheme "A". In case of necessity of simultaneous control of LED and other devices (e.g. Buzzer) connect the reader according to the scheme "B":

SCHEME A



SCHEME B



**For product with common cathode:** LED connected in series with a resistor 330R has a cathode connected to the negative power supply. LED is activated when is connected to plus of power supply. To connect more than 5V, it is advised to use external resistor to avoid exceeding the maximum LED current. Minimum value of resistor can be calculated from the formula:

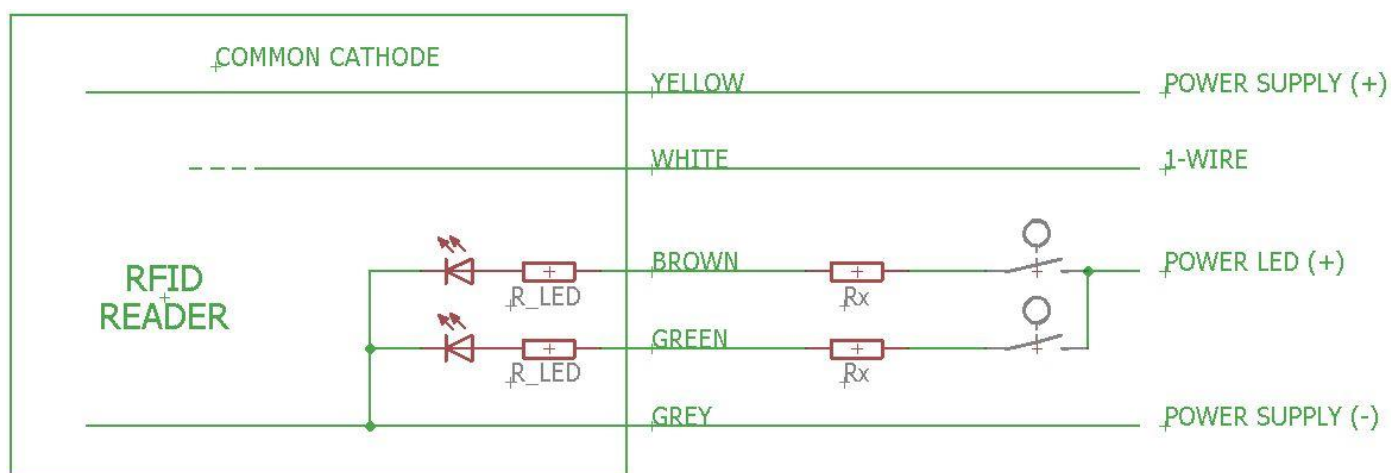
$$R_x = \frac{(U_s - 1.6V)}{I_d} - 330\Omega$$

where:

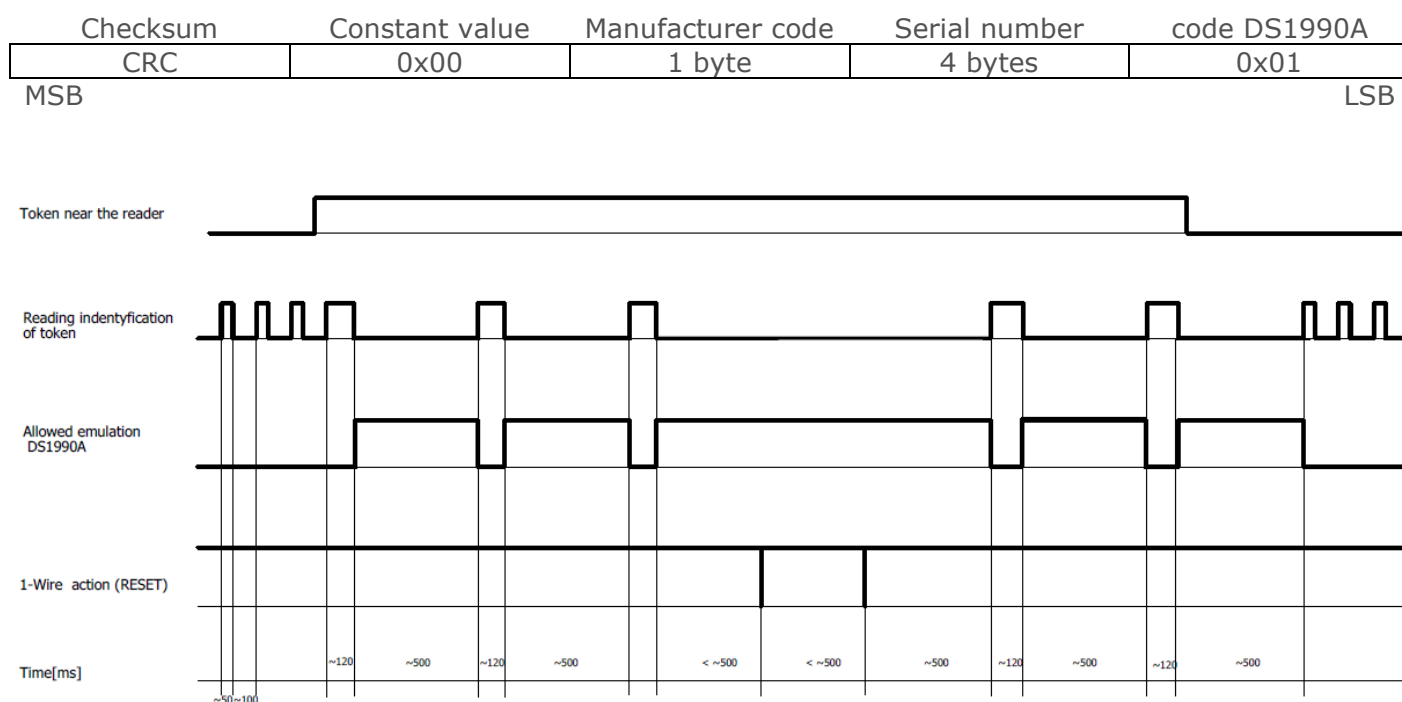
$R_x$  – External resistor                       $U_s$  – Power supply voltage of LED                       $I_d$  – LED current (max. 10mA)

Connect the reader according to the scheme „C”:

SCHEME C



After successful parity bits check, collected data (manufacturer code and serial number) are sent via 1-Wire interface, emulating the MAXIM DS1990A

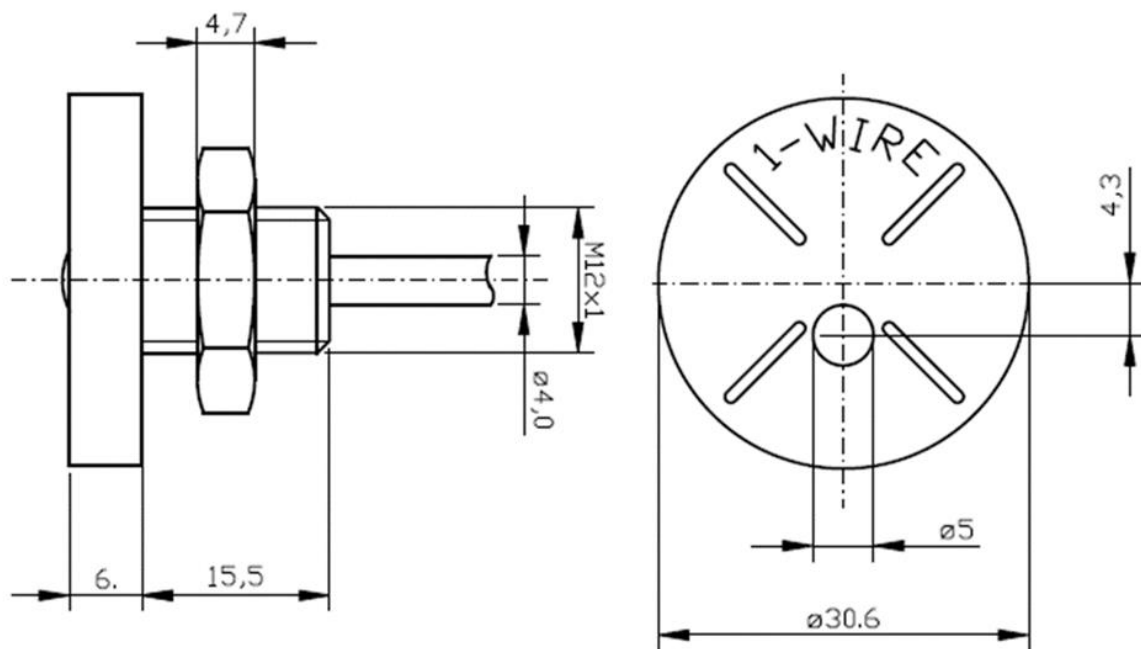


1. The reader is waiting for the proximity of the token (card) trying to read it at a frequency of about 6 times per second. ( $\sim 50$  ms [checking the presence of the card] +  $\sim 100$  ms [gap between successive checks]).

2. After the token is approached, its identifier is read ( $\sim 120$  ms) and it is stored for a period of  $\sim 500$  ms during which it is possible to emulate the read number as the MAXIM iButton DS1990A.

3. If during this  $\sim 500$  ms on the 1-wire bus no RESET pulse initiating the transmission appears, the identifier is forgotten and the reading is repeated. Otherwise, the time of remember the identifier will be extended for another 500 ms from the moment of the RESET pulse.

## External dimensions



## Technical Data

|                                     |  |
|-------------------------------------|--|
| <b>Power supply</b>                 | 6,5-30 V DC  |
| <b>Nominal power supply voltage</b> | 12 V DC  |
| <b>Power supply efficiency</b>      | 1 A  |
| <b>Peak current</b>                 | 50 mA  |
| <b>Receiver current</b>             | 12 mA (without LED)  |
| <b>Green LED current</b>            | 10 mA (for „K” version do not exceed 15 mA)                              |
| <b>Red LED current</b>              | 10 mA (for „K” version do not exceed 15 mA)                              |
| <b>Frequency</b>                    | 125 kHz  |
| <b>Type of transponder</b>          | Manchester, 64 cycles per bit  |
| <b>Surface of the antenna</b>       | 6,8 cm <sup>2</sup>  |
| <b>Reading range</b>                | ~4cm   |
| <b>Reading frequency</b>            | 6/s for identification<br>2/s when transponder is in range of the reader |
| <b>Supported 1-Wire commands</b>    | 0x33 (0x0F) - Read ROM<br>0xF0 - Search ROM                              |
| <b>Mounting method</b>              | M12 Thread   |
| <b>Cable length</b>                 | 0,4 m  |
| <b>Reader temperature</b>           | -20° C<br>+55° C   |
| <b>ROHS</b>                         | YES  |