1W-H3-05 (K)*

RFID reader | 125 kHz | Unique

Product Card

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

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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.*

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General information

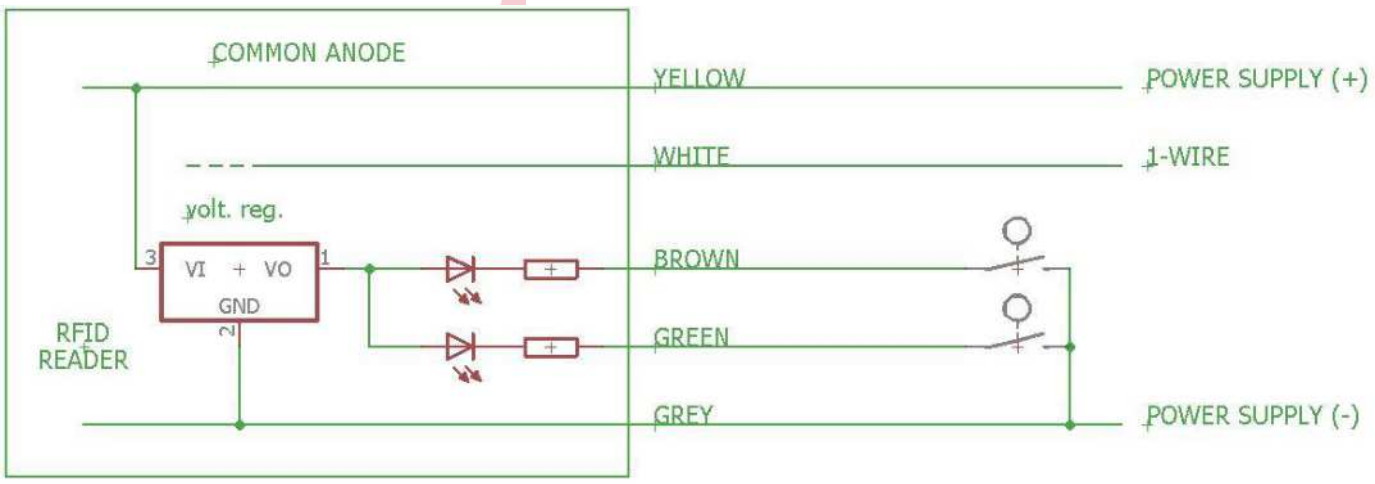
The RFID reader **1W-H3-05 (K)** reads identification data wireless of passive transponders (cards, tags, etc.) compatible with UNIQUE standard. The built-in two-color LED for any use. The red LED cannot be used to indicate failure or danger.

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.

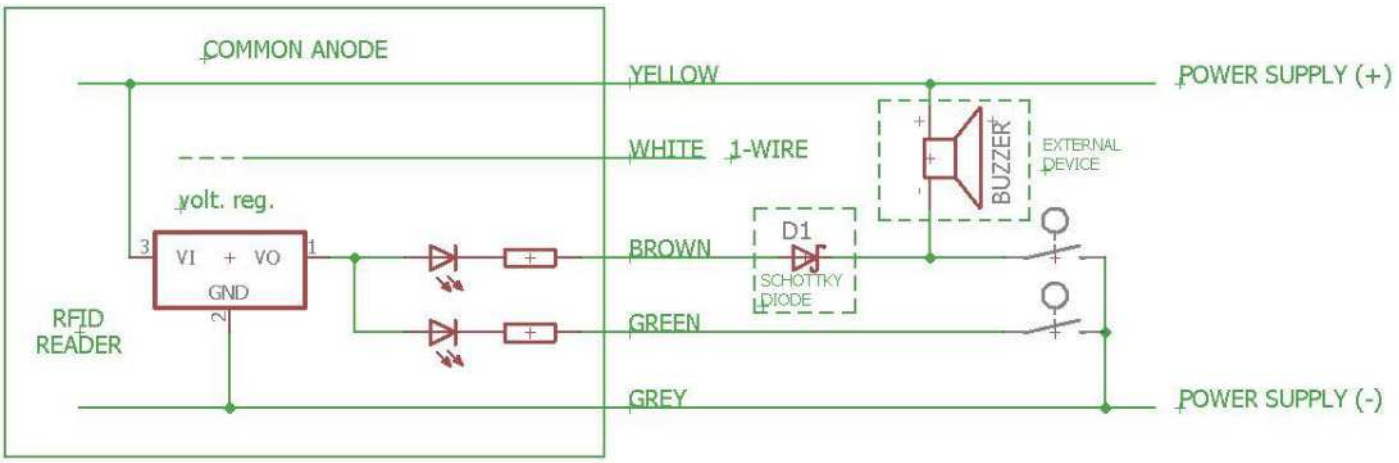
Grey	–	power supply (-)	
Yellow	–	power supply (+)	
Green	–	green LED	cathode (anode for „K" version)
Brown	–	red LED	cathode (anode for „K" version)
White	–	1-Wire	

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



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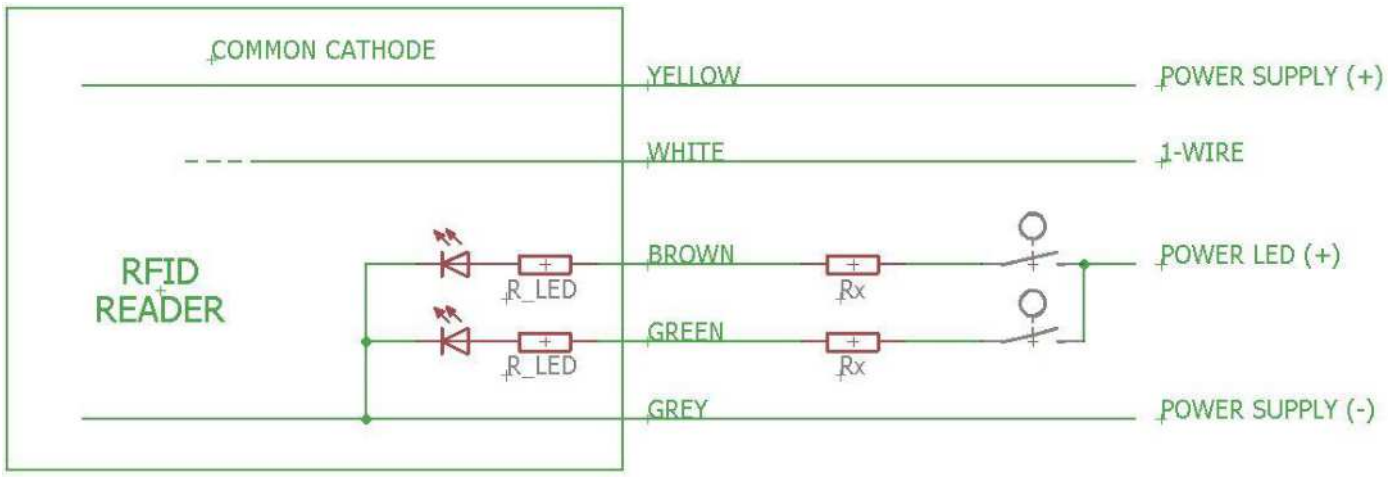
For product with common cathode: LED connected in series with a resistor 330R has a cathode connected to the negative power supply. LED is activated when is connected to plus of power supply. To connect more than 5V, it is advised to use external resistor to avoid exceeding the maximum LED current. Minimum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

$$R_x = \frac{(Us-1.6V)}{Id} - 330\Omega$$

where:
R_x – External resistor Us – Power supply voltage of LED Id – LED current (max. 10mA)

Connect the reader according to the scheme „C”:

SCHEME C



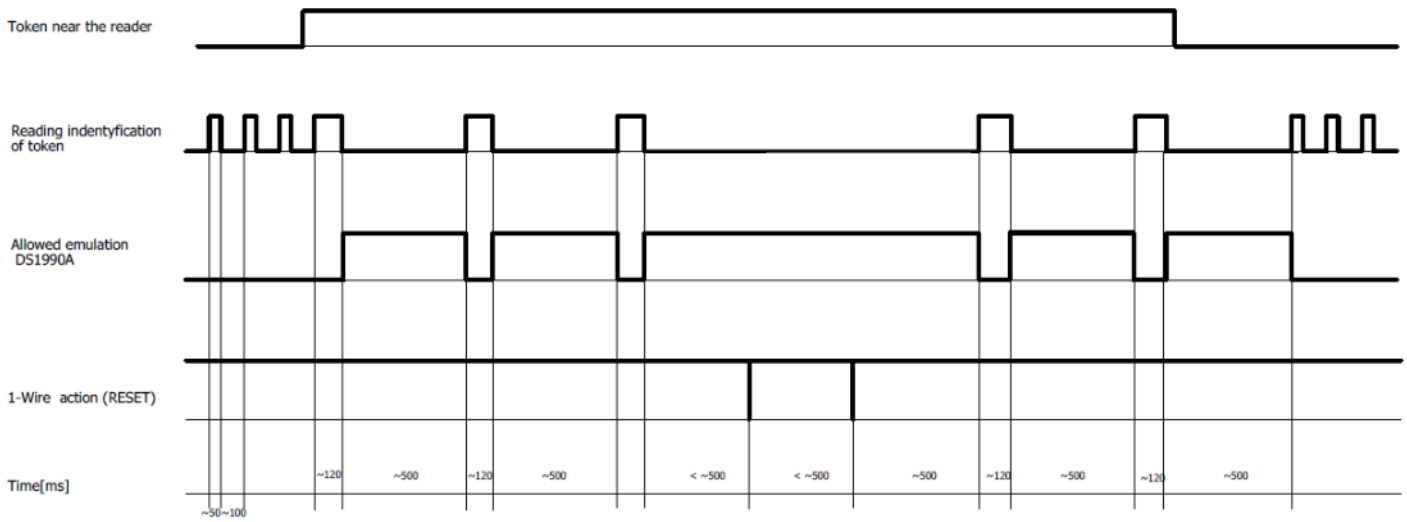
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DS1990A emulation

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

Checksum	Constant value	Manufacturer code	Serial number	code DS1990A
CRC	0x00	1 byte	4 bytes	0x01

MSB LSB

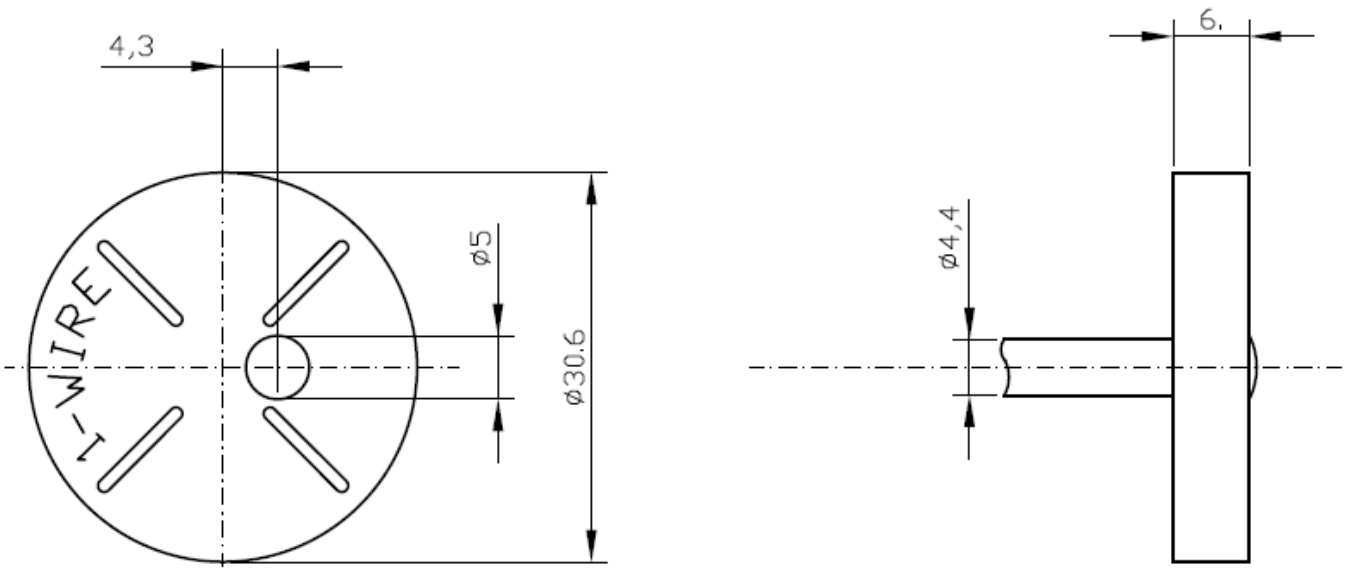


1. The reader is waiting for the proximity of the token (card) trying to read it at a frequency of about 6 times per second. (~ 50 ms [checking the presence of the card] + ~ 100 ms [gap between successive checks]).

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

3. If during this ~ 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



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Technical Data

Power supply	6,5-30 V DC
Nominal power supply voltage	12 V DC
Peak current	50 mA
Receiver current	12 mA (without LED)
Green LED current	10 mA (for „K" version do not exceed 15 mA)
Red LED current	10 mA (for „K" version do not exceed 15 mA)
Frequency	125 kHz
Type of transponder	Manchester, 64 cycles per bit
Surface of the antenna	6,8 cm^2
Reading range	~4 cm
Frequency range of the reader	119-140 kHz
Nominal frequency of the reader	125 kHz
Reading frequency	6/s for identification 2/s when transponder is in range of the reader
Supported 1-Wire commands	0x33 (0x0F) - Read ROM 0xF0 - Search ROM
Mounting method	tape, glue, etc.
Cable length	0,4 m
The maximum length of power and signal connections	2 m
Reader temperature	-20° C +55° C
ROHS	YES

The device cannot be powered from the DC network. It must be connected to the power supply via a 1A short-circuit protection.

The device marking is located on the bottom of the housing.