

## PLA-R6L

### 13,56MHz RFID reader

#### FEATURES:

- 13,56MHz transponders support (Mifare family, I-CODE, ISO1443A/B)
- IClass CSN and Legic CSN (chip serial number) support
- NFC support, including NFC ID Netronix application
- Transponder memory available
- Mifare anti-collision support
- 1WIRE interface (DS1990 emulation)
- Serial interfaces (UART-TTL, RS232-5V)
- Wiegand interface (configurable)
- Wide supply range
- Over/reverse voltage protection
- Built-in antenna
- Built-in buzzer
- Low Power consumption
- Built-in two LEDs indicator ( green + red )
- Thin, compact enclosure
- Settings by button or serial interface
- Built-in bootloader
- E-mark certification ready



#### TECHNICAL PARAMETERS:

|                                         |                                                                                      |
|-----------------------------------------|--------------------------------------------------------------------------------------|
| Power Supply                            | 7-32V                                                                                |
| Operating frequency                     | 13,56MHz                                                                             |
| Average power consumption               | 5mA (for 1-WIRE, Wiegand)<br>12mA (for serial interfaces)                            |
| Interface                               | 1WIRE: 3,3V – 5V<br>UART 0-3,3V, 9600,8,n,1<br>RS232, 9600,8,n,1<br>Wiegand – 37bits |
| Sink current for LED and buzzer control | Max 150uA                                                                            |
| Read range                              | Up to 12cm (depends on transponder)                                                  |
| Working temperature                     | -20c ÷ +65c                                                                          |
| dimension                               | 54mm x 85mm x 7mm                                                                    |
| Cord length                             | 1m                                                                                   |
| Connector                               | 2x3 pin male Molex MicroFit3.0                                                       |

#### CONNECTOR PINOUTS:

| PIN | Wire color | Function                          |
|-----|------------|-----------------------------------|
| 1   | GREEN      | 7 - 32 volt supply                |
| 2   | BLUE       | Green LED, RX for UART            |
| 3   | GREY       | Ground signal controlling buzzer  |
| 4   | BROWN      | 1-Wire data, Wiegand '0'          |
| 5   | WHITE      | Red LED, TX for UART, Wiegand '1' |
| 6   | YELLOW     | Ground                            |



## 1. Factory and default configuration.

To set default configuration, press button via small hole on reader back side for 5 seconds. Procedure is confirmed by buzzer. This sets parameters as below:

- Interface:  
1WIRE, DS1990 emulation, Family code 1, id is sending as long as card is in field,
- Card type:  
Mifare

LED and buzzer control: by pull control wires to ground

## 2. Change settings using button.

Transponder type and interface can be changed using back button only.

| STEP | Number of clicks                   | 1 | 2                  | 3                   | 4               | 5            | 6       |
|------|------------------------------------|---|--------------------|---------------------|-----------------|--------------|---------|
| 1    | MENU1-transponder                  | - | Mifare (ISO14443A) | ICODE SLI Legic CSN | IClass CSN      | ISO14443B    | ALL     |
| 2    | 'Double short beep' - confirmation |   |                    |                     |                 |              |         |
| 3    | MENU2 – interface                  | - | RS232              | UART-TTL            | 1-WIRE multiple | 1WIRE single | Wiegand |
| 4    | 'triple short beep' - confirmation |   |                    |                     |                 |              |         |

In case 'all' transponder option, card detection reactions is delayed.

## 3. 1-WIRE interface:

Reader supports Read\_ROM and Search\_ROM commands. Family code is '1' by default and can be optionally changed. Single code mode and multiple code mode(DS1990 compatibility) can be set.

In 1-WIRE mode, LEDs and buzzer are control by wires by pulling it to LOW.

## 4. RS232/UART interface:

In this mode, two protocol are available. Simple and Netronix Protocol. Both are working simultaneously.

By default, in simple mode, ID is sending automatically after card detect to TX pin as ASCII chars with CR+FL. Format can be changed using Netronix protocol commands (please contact with us for details).

LEDs and buzzer are controlled by 5-bytes frame as below:

| Byte | Name | Description |
|------|------|-------------|
|------|------|-------------|

|   |           |                                                                                                                                                                                                                                                                                                                                         |
|---|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Indicator | Defines (on 3 bits) which element will be control. Writing 0, resets all indicator. Multiple items can be control<br><div style="border: 1px solid black; padding: 2px; display: inline-block;"> - - - - LR LG BU </div> <ul style="list-style-type: none"> <li>- LR –red led</li> <li>- LG – green led</li> <li>- BU buzzer</li> </ul> |
| 2 | Pulses    | Number of pulses. Writing 0 means infinity.                                                                                                                                                                                                                                                                                             |
| 3 | Ton       | Time in 0,1s when element is turned on                                                                                                                                                                                                                                                                                                  |
| 4 | Toff      | Time in 0,1s when element is turned off                                                                                                                                                                                                                                                                                                 |
| 5 | CRC       | XOR operation on bytes1-4                                                                                                                                                                                                                                                                                                               |

Example:

0x03 0x03 0x01 0x02 0x03 – 3 fast (0,1s on, 0,2s off) green LED blinks with buzzer beeps.

For more information about extended Netronix protocol, please contact with us.

## 5. WIEGAND interface:

Wiegand is in 37bits mode with left alignment by default. This parameters can be changed using serial interface commands.

In Wiegand mode, green LED and buzzer are control by wires by pulling it to LOW. Red led can not be control in Wiegand.

## 6. Bootloader mode:

To enter to bootloader mode please press button for 15 times. It will be indicated by green LED flashing.

For more information please contact with us: [netronix@netronix.pl](mailto:netronix@netronix.pl)