

## **Functional description**



IC:7812D-5WK49963

I BS PG3 CFRPWM

FCC ID:KR55WK49963

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5WK49961/962/963

**User Manual**

**of the**

**Continental**

**Remote Control System**

**Type:**  
**PL6 ID for RR04**

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## **General description of the RF transceiver PL6 ID**

The RF remote control system consists of a RF transceiver within the PL6 ID and a RF transceiver mounted inside the car. The RF transceiver is mechanically integrated in the head of the PL6 ID. The PL6 ID is used to transmit the information for locking or unlocking the vehicle by a bidirectional RF transmission for normal remote operation by pressing a button.

In general the following functions are provided:

- Lock the car
- Unlock the car
- Unlock the trunk of the car
- Activate Panic-Function
- Engine Start of the Car (via LF Wake Up)

## **Power supply**

The transmitter is provided with 1 Lithium battery (CR 2450) that gives a power supply of +3V.

## **Buttons**

There are four buttons which enable to lock and unlock the doors, to unlock the trunk and activate the panic-function of the car. During activation, the button is forced to the ground via a "pull-up" within the microcontroller.

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Unlock  
Lock  
Trunk  
Panic

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## Protocol Overview

After a button-push the PL6 ID will send a RF-code-telegram for 92 ms. When the car acknowledges the success of the transmission the PL6 ID starts the comfort-telegram (duration 9 ms), which is repeated all 75 ms till the button is released or the timeout is reached. When the car doesn't acknowledge the success of the transmission then the RF-telegram is repeated on the second channel. This procedure is repeated 4 times with a time-distance of 500 ms when the button is still pressed.

## Typical usage pattern

The typical usage are 10 lock/unlock operations in 24 hours with a typical transmission duration of 0,2 seconds

→ 0,42 lock/unlock operations within one hour

Transmitter ON      0,084      seconds / hour

Transmitter OFF    3599,916    seconds / hour

Duty Cycle:  $T_{ON} / T_{(ON+OFF)} \times 100\% = 0,084 / 3600 \times 100\% = \underline{0,002\%}$

## RF Test-Mode

For test-issues like homologation is a test-mode defined, which can only be activated for virgin keys. Virgin keys will not be delivered to the market.

The standard application doesn't work if a test-mode is activated.

The test-mode can be activated via a push to the Panic-Button or to the Trunk-Button and keeps activated until the button is pushed again.

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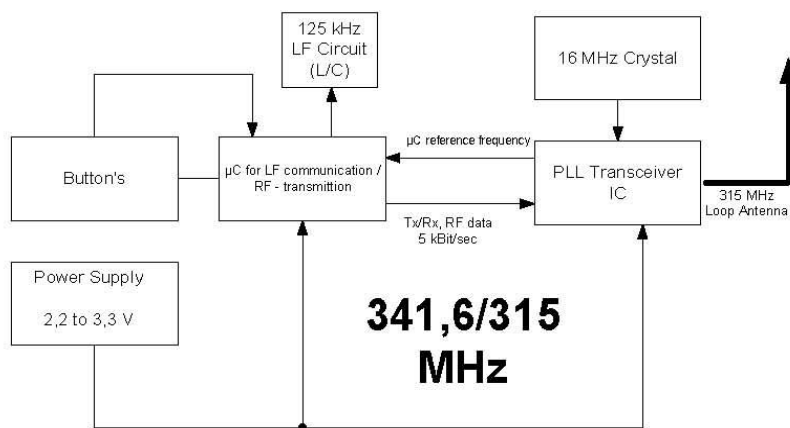


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16 MHz Crystal	Quartz-Oscillator NDK NX5032
PLL Transmitter IC	Bidirectional Multichannel IC NXP PQJ 7980
μC for LF communication/ RF-transmission	μC NXP PCF7953 with an integrated: <ul style="list-style-type: none"> <li>- IO-Ports (button-input, transmission-control)</li> <li>- LF-transponder-circuit for immobilization (125 kHz, short distance)</li> <li>- LF-receiver-circuit (125 kHz, middle distance)</li> </ul>
125 kHz LF-Circuit	- contains the LC-oscillator for LF-transponder-circuit - contains the LC-oscillator for LF-receiver-circuit
Power Supply	Panasonic-Battery CR2450
Buttons	4 Buttons for Lock/ Unlock/ Trunk opening/ Panic



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### Variants

Model	Description
5WK4 9961	868,1/868,5 MHz variant for Europe
5WK4 9962	433,92 MHz variant for Korea
5WK4 9963	314,6/315MHz variant for USA/ Japan

### Technical Data

Carrier frequency model 5WK4 9961:	868,1/ 868,5 MHz
Carrier frequency model 5WK4 9962:	433,92
Carrier frequency model 5WK4 9963:	314,6/ 315.0 MHz
Output power model 5KW4 9961:	< 10 mW
Output power model 5KW4 9962:	< 5 mW
Output power model 5KW4 9963:	< 75.6 dB $\mu$ V/m
Type of modulation:	FSK
Method of frequency generation:	PLL
Number of channels:	2
Power supply:	battery (CR2450)
Supply Voltage Maximum	3,2 V
Typical	3,0 V
Minimum	2,2 V
Type of battery:	lithium
Type of RF-antenna:	PCB-Loop antenna

### NOTE:

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.



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## Label design / Owner Manual

USA/CAN: (315 MHz)

Continental  
5WK49963  
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### Owner Manual:

Canada:  
Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

USA:  
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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