

User Manual

of the

Siemens VDO Transmitter

TYPE

451 TX

5WK45144 (USA)
5WK45146 (ECE)
5WK45145 (Japan)
5WK45147 (Australia)

1. General Description of the RF Transmitter

The described system is a radio -frequency remote control (usually called Remote Keyless Entry system) for central doors locking / unlocking destined to equip the Smart W451 car line. The system components constituting the Smart W451 application are:

- The RF key with 3 or 4 buttons (doors locking / unlocking, trunk unlockin g), including the transponder function.
- The SAM which integrates the RF receiver, and in which the remote control decoding is done.
- The immobiliser with an LF coil antenna.

The transmitter is used to transmit information for locking or unlocking the vehicle by a unidirectional RF transmission line for normal remote operation by pressing a button. Also is implemented the function of the Immobilizer in the transmitter with a bidirectional LF – transmission (passive).

In general the following functions are provided:

- Lock the car
- Unlock the car
- Unlock the boot lid of the car
- Panic alarm
- Immobilizer (motorstart)

2. Key Constitutive parts

The RF key is constituted with:

- Bottom shell with the integrated holder for the mechanical key blade
- Mechanical key blade
- Top shell
- Sealing and switch pad
- Button support
- PCB with minus pole SMD battery contact
- Plus pole battery contact
- 3V Lithium cell battery CR2016, 90mAh

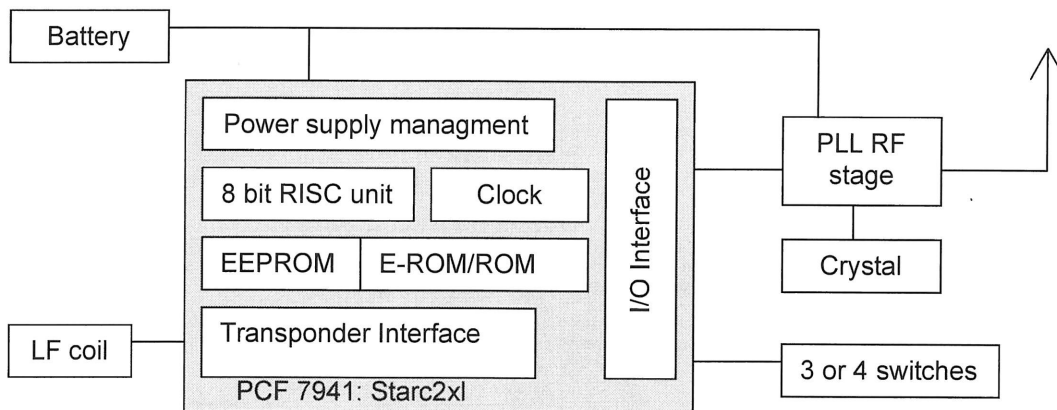
3. Power Supply

The transmitter is provided with 1 lithium battery (CR 2016) that gives a power supply of +3V. The key is protected against polarity reversal due to wrong battery insertion by mechanical means. The battery capacity covers the typical usage pattern of 10000 activation during two years.

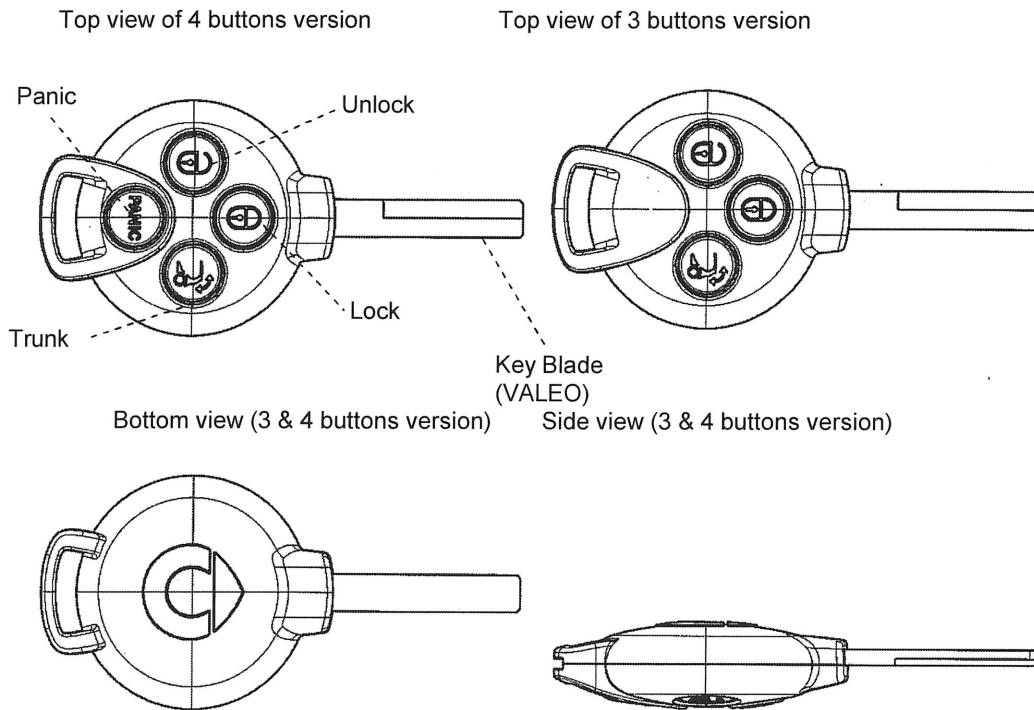
4. Button functions

| User Action | Performed Function at Vehicle |
|---|--------------------------------|
| short LOCK button press | central locking |
| LOCK button press for more than 500ms (about) | LOCK comfort function starts |
| short UNLOCK button press | central unlocking |
| UNLOCK button press for more than 500ms (about) | UNLOCK comfort function starts |
| TRUNK button press | unlock trunk |
| PANIC button press (USA variant only) | panic function |

5. Block Diagram of the Transmitter



6. Mechanical Design



7. Technical Data

| | |
|-------------------------------------|--|
| Carrier frequency: | 433 MHz \pm 81ppm (ECE), 315 MHz \pm 73 ppm (USA, Japan, Australia) |
| Output power ECE: | < 10mW |
| Output power USA, Japan, Australia: | Country limits |
| Type of modulation: | FSK |
| Method of frequency generation: | PLL |
| Number of channels: | 1 |
| Power supply: | battery (CR 2016) |
| Type of battery: | lithium |

8. Label Design

Europe:

Siemens VDO

451 TX

5WK45146



USA, Canada:

Siemens VDO

451 TX

5WK45144

FCC ID:KR5 5WK45144

IC: 267T -5WK45144

Entry Owners Manual, Canada, USA:

NOTE

This device complies with part 15 of the FCC Rules and RSS -210. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

CAUTION

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

Japan:

Siemens VDO

451 TX

5WK45145

Australia:

Siemens VDO

451 TX

5WK45147

