SXK-FWS02

Anti Tailgate Interlock Parking Solution



Coordinate two parking barriers with vehicle detection and license plate recognition to help deter unauthorized following vehicles.

Sequential barrier control
Barrier 2 opens after Barrier 1 has fully closed.

Two recognition modes
Select front or rear license plate recognition to suit the lane arrangement.

Adjustable recovery
Configure loop release delays and automatic reset timeouts on the controller.

Barrier control	Vehicle detection	Relay outputs	Supply wiring
2 barriers	2 detector inputs	4 channels	12 V DC

Typical applications



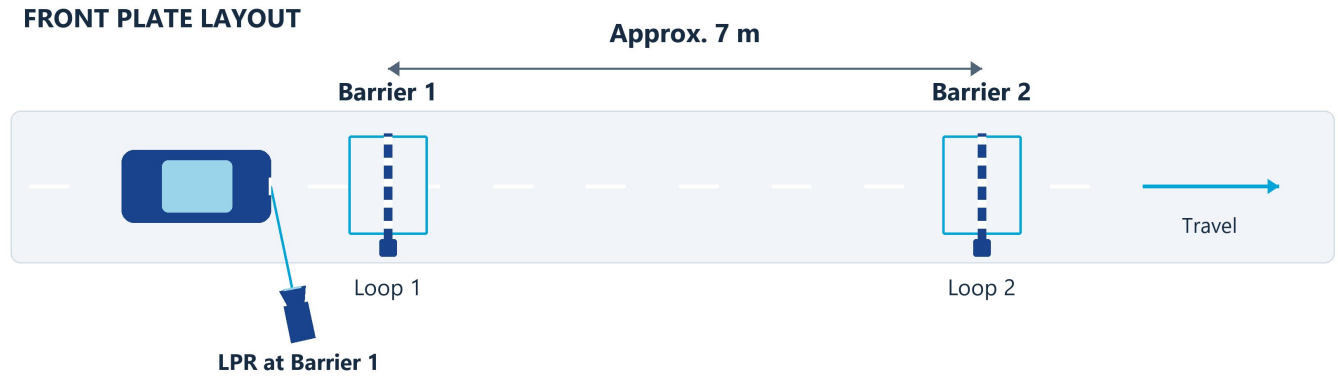


Residential communities / Managed parking facilities / Controlled vehicle entrances

The SXK-FWS02 is the interlock controller within a complete parking lane. It connects the LPR open request and two vehicle detectors to the control interfaces of two barriers.

Front plate operation

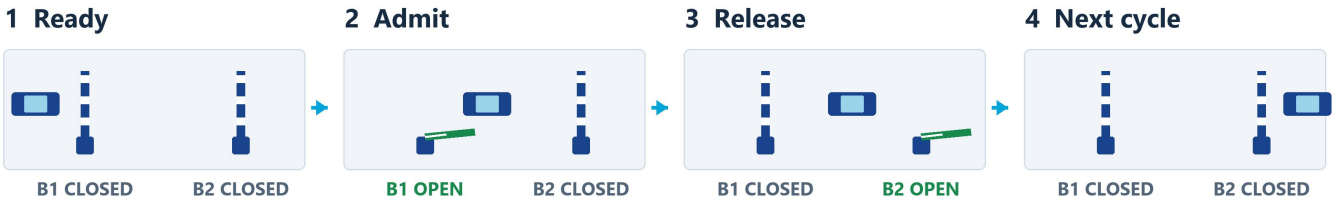
Both barriers start closed. The LPR camera is installed at Barrier 1 and authorizes the vehicle before it enters the controlled zone.



INITIAL STATE

Barrier 1 closed / Barrier 2 closed

Open barrier shown in green



Front plate control sequence

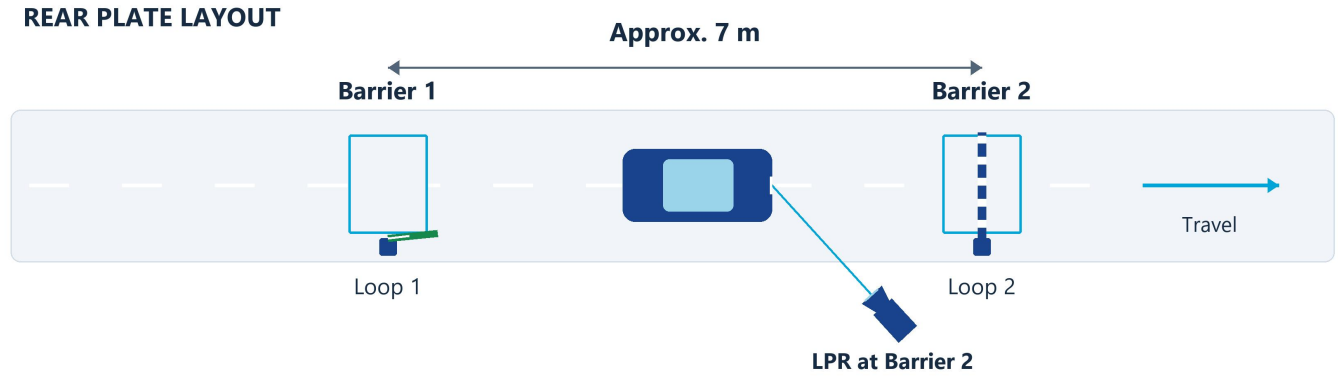
Stage	Event and controller response
1 Ready	Barrier 1 and Barrier 2 remain lowered.
2 Admit	A valid front plate is recognized and Barrier 1 opens. Barrier 2 remains closed.
3 Release	After the vehicle passes Loop 1, Barrier 1 closes. Barrier 2 opens only after Barrier 1 has fully closed.
4 Next cycle	The vehicle passes Loop 2 and Barrier 2 closes. After it fully closes, Barrier 1 opens for the next waiting valid vehicle; otherwise it remains closed.

Mode selection: 1 SET trigger. Default error reset timeout: 60 s.

Reference layout: approximately 7 m between barriers, described as one vehicle length. Confirm spacing against the site layout and vehicle envelope.

Rear plate operation

Default recognition mode. Barrier 1 starts open and Barrier 2 starts closed. The LPR camera is installed at Barrier 2 to read the rear plate within the controlled zone.





Rear plate control sequence

Stage	Event and controller response
1 Ready	Barrier 1 remains raised and Barrier 2 remains lowered.
2 Isolate	Loop 1 is triggered and a valid rear plate is recognized. Barrier 1 closes.
3 Release	Barrier 2 opens only after Barrier 1 has fully closed.
4 Reset	The vehicle passes Loop 2 and Barrier 2 closes. After it fully closes, Barrier 1 returns to its raised state.

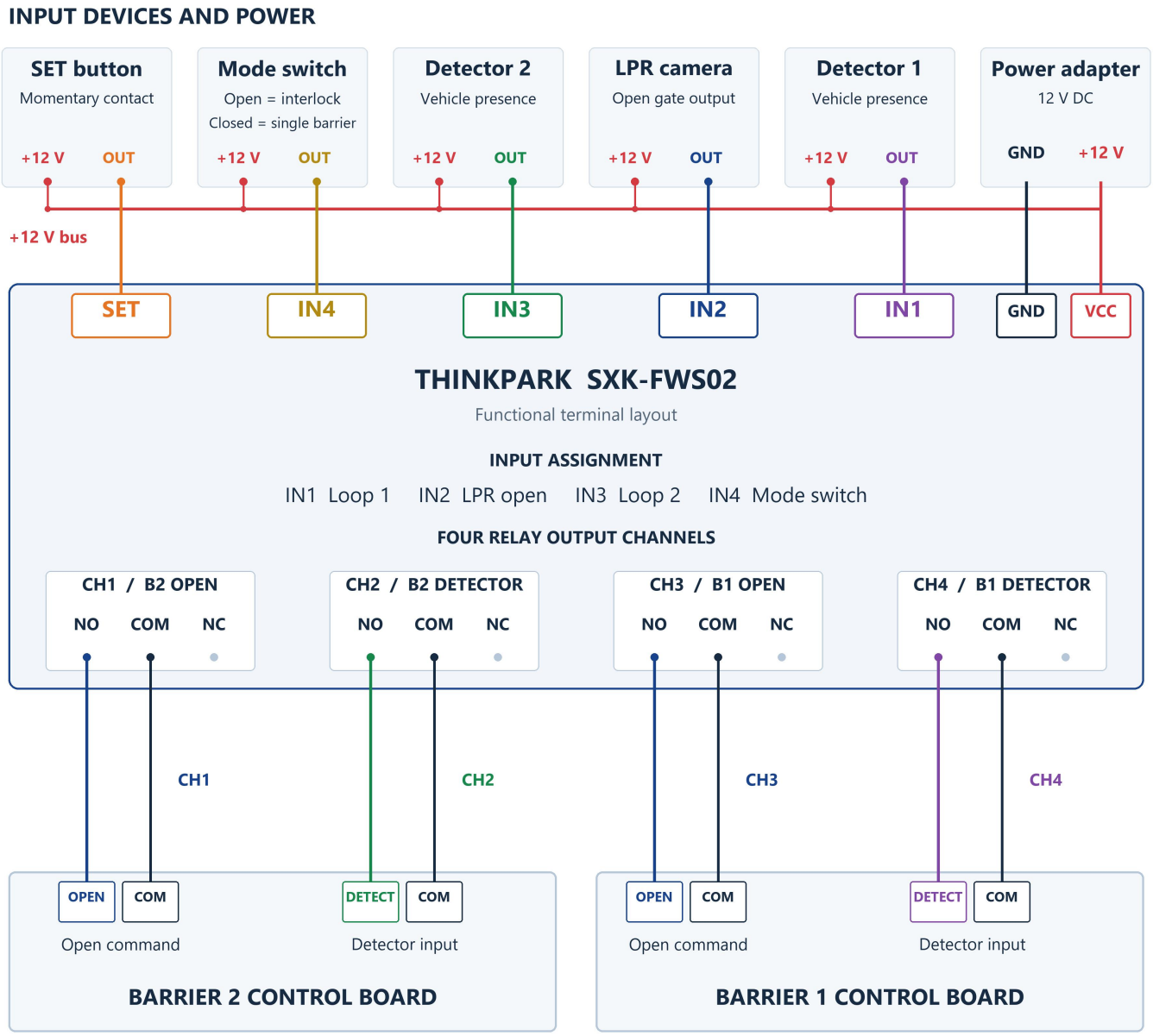
Mode selection: 2 SET triggers (default). Default error reset timeout: 180 s.

Immediate drop: disabled by default. When enabled, Barrier 1 closes on the Loop 1 trigger without waiting for plate recognition.

Reference layout: approximately 7 m between barriers. Loop 1 is the vehicle presence / anti-crush loop at Barrier 1; Loop 2 triggers the downstream closing sequence.

Wiring diagram

Connect the +12 V trigger signals to the assigned inputs and use the four relay contact pairs to interface with the barrier control boards.



NO / COM are used as in the reference. NC contacts remain unused.

Crossings without a dot are not connected. Colors identify signal circuits.

Function labels shown. Confirm actual terminal markings; PCB orientation is not represented.

Mode switch: open / disconnected = two barrier interlock. Closed = single barrier mode.

Interfaces and components

Vehicle detection signals may be supplied by loop detectors or the radar detectors illustrated in the reference layout. Use the wiring diagram on the previous page with the terminal allocation below.



Functional overview. Use the project wiring drawing for physical terminal positions.

Input connections

Interface	Source or connection	Function
VCC and GND	+12 V DC power adapter	Controller power as shown in the wiring diagram
IN1	Vehicle detector 1	Presence signal for Barrier 1
IN2	LPR camera open gate signal	Valid plate / opening request
IN3	Vehicle detector 2	Presence signal for Barrier 2
IN4	External mode selector switch	Open / disconnected: interlock Closed: single barrier mode
SET	Momentary connection to +12 V	Local mode and timing configuration

Relay output allocation

Channel	Connected barrier	Control board interface
CH1	Barrier 2	Open command
CH2	Barrier 2	Detector input
CH3	Barrier 1	Open command
CH4	Barrier 1	Detector input

Each relay channel has NO, COM and NC terminals. The supplied wiring uses NO and COM. Input signal compatibility and barrier control board behavior must be checked during commissioning.

Specifications and configuration

Local settings are retained on the mainboard. Configure the recognition mode, loop release delay and error recovery timeout through the SET connection.

Controller specifications

Parameter	Description
Model and manufacturer	SXK-FWS02 / Thinkpark Technology Co., Ltd
System arrangement	Two barriers, two vehicle detector signals and one LPR open request
Supply shown in system wiring	12 V DC, VCC and GND
Relay channels	4 changeover channels; NO / COM / NC terminals
Default recognition mode	Rear license plate recognition
Loop release delay	Independent for each loop; 2 s default
Auto reset timeout defaults	Front plate: 60 s / Rear plate: 180 s
Startup indication	Buzzer mode confirmation at power on
Settings storage	Stored on the controller mainboard

SET programming reference

A trigger is a momentary connection of SET to +12 V. Select the required loop input condition before applying the trigger sequence.

Function	Input condition	SET action and result
Recognition mode	Normal mode selection	1 trigger: front plate 2 triggers: rear plate (default)
Loop release delay	Hold the corresponding loop active	5 triggers: 1 s 6 triggers: 2 s (default) 7 triggers: 3 s; each extra trigger adds 1 s
Auto reset timeout	Hold Loops 1 and 2 active	1 trigger: 30 s; 2: 60 s; 3: 90 s Each extra trigger adds 30 s
Immediate drop	Rear plate mode	3 triggers: disable (default) 4 triggers: enable
Interlock toggle	SET held at +12 V	Hold for at least 8 s, then release

Power on confirmation: 1 beep indicates front plate mode; 2 beeps indicate rear plate mode.

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Specifications are subject to change without notice. Please confirm final configuration and certifications with our sales team before ordering.