SXK-PL20

4G Smart Parking Lock

Product Overview

The SXK-PL20 is a 4G-enabled smart parking / space lock designed for shared parking management. With built-in 4G networking, it connects directly to the cloud platform without any on-site gateway, Wi-Fi or LAN cabling, enabling remote control, real-time status monitoring and automatic vehicle detection in one compact, weather-proof unit. It supports Bluetooth local configuration and RS485 integration, and can be linked to license-plate-recognition (LPR) cameras to lower the lock automatically when an authorized vehicle arrives.

Combining **microwave radar**, **geomagnetic** and **infrared sensing** with vector-fusion detection and baseline auto-follow algorithms, the PL20 reliably detects vehicle presence (detection rate > 99.9%) while keeping standby power consumption below 1 mA. Its 180° physical centering, bidirectional anti-collision buffer and scratch-resistant arm structure deliver robust protection for both the lock and the vehicle.



Figure 1 · SXK-PL20 4G Smart Parking Lock

Key Features



Figure 2 · 4G networking & fusion detection



Figure 3 · Side view & IoT control



Figure 4 · Front view



Figure 5 · Lowered state & anti-tamper alarm

Intelligent control, accurate detection and rugged protection – designed for shared-parking deployment:

- **4G Direct Networking —** Direct cloud connection via 4G; no gateway, Wi-Fi or field wiring. TCP/IP long connection by default, MQTT optional. Heartbeat reporting keeps the lock online and responsive.
- **Triple Fusion Detection —** Microwave radar + geomagnetic + infrared sensors with vector-fusion algorithm and baseline auto-follow; detection rate > 99.9% with stable, repeatable performance.
- **Camera LPR Integration —** Supports lowering the lock on license-plate recognition via camera – through the backend network or direct RS485 control – for fully automatic entry.
- **Remote Management & Alarms —** Full remote parameter configuration (detection threshold, auto-raise time, communication settings), self / command calibration, Chinese–English voice broadcast, fault self-check, voice warnings and backend reporting.
- **Accurate Arm Control & Protection —** Electronic gyroscope reads the arm angle accurate to 1°; 180° physical centering, bidirectional anti-collision buffer, anti-scratch arm and slope design, plus impact / press voice alarm with backend report.
- **Low Power & Robust Build —** 6 V DC motor, AC-mains or battery powered, standby < 1 mA, service life ≥ 5 years, IP68 rating, -40 ~ +85 °C, withstands rolling loads up to 5 tons.

Technical Specifications

Parameter	Specification
Model	SXK-PL20
Product Type	4G smart parking / space lock
Communication Type	4G networking + Bluetooth (RS485 also supported)
Camera LPR Control	Supports lock lowering on license-plate recognition (camera via backend network or RS485 direct control)
Vehicle Detection	Microwave radar + geomagnetic + infrared fusion; detection rate > 99.9%
Detection Algorithm	Vector-fusion detection algorithm; baseline auto-follow algorithm
Remote Parameter Configuration	Detection threshold, auto-raise time, operation & communication parameters – all remotely configurable
Calibration Function	Self-calibration; command calibration
Voice Broadcast	Chinese / English (configurable)
Fault Self-check & Reporting	Self-check + voice broadcast + backend report
Arm Angle Detection	Electronic gyroscope, accurate to 1°
Arm Anti-collision Buffer	180° physical centering; bidirectional anti-collision buffer
Scratch Protection	Anti-scratch arm structure; slope anti-scratch design
Arm Impact Alarm	Impact / press voice warning + backend report
Status Monitoring	Low-voltage, impact, arm-raising / lowering obstruction and fault alarms
Drive / Motor	6 V DC motor
Power Supply	AC mains or battery
Standby Current	< 1 mA
Service Life	≥ 5 years
Ingress Protection	IP68
Operating Temperature	-40 °C ~ +85 °C
Dimensions (L × W × H)	400 × 478 × 88 mm
Arm Raising / Lowering Time	< 5 s / < 4 s
Compression Resistance	Withstands rolling loads up to 5 tons
Packing Dim/Gross Weight	42 x 50 x 10.5cm / 5.2 kg
Heartbeat Period	300 s (default)
Solar Voltage (optional)	Full charge 6.1–6.9 V; low-battery alarm at 4.5 V

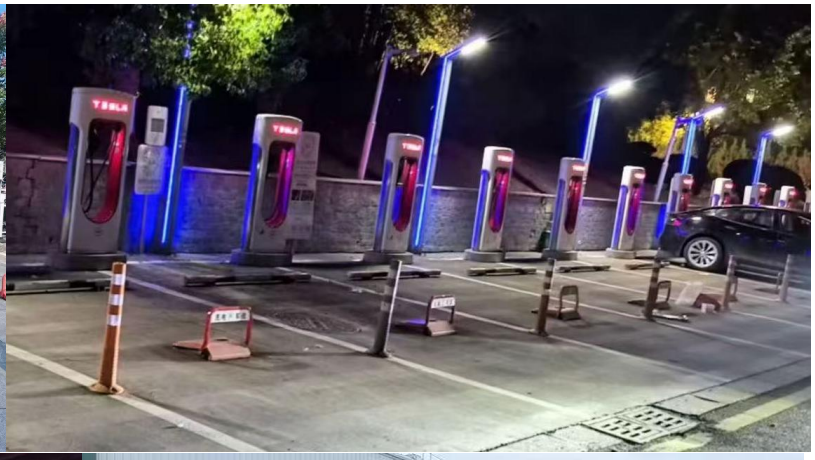
Application Scenarios

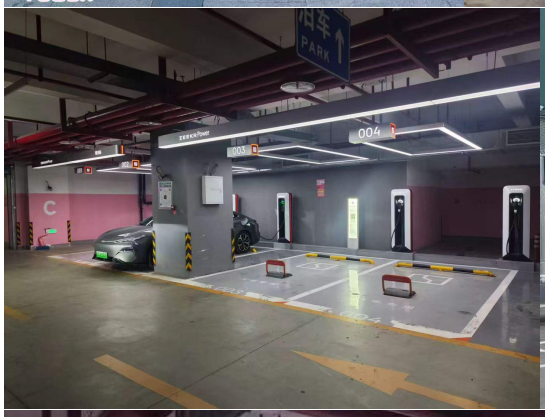
Scenario	Application
Shared Parking Networking	4G direct networking for shared-parking platforms; remote lock / unlock, real-time status and alarm reporting without on-site gateway.
Residential Communities	Private reserved spaces with automatic detection; LPR-camera integration for barrier-free entry.
Commercial Parking Lots	Combined with parking guidance and payment platforms for managed, occupancy-accurate operations.
Industrial Parks & Factories	Vehicle-entry control and reserved-space protection in yards, depots and staff parking areas.
EV Charging Stations	Prevents ICE parking at charging bays; releases the space for charging vehicles via LPR or remote command.
Roadside & Temporary Lots	Quick deployment over 4G for temporary or seasonal parking management.

Packaging & Order Information

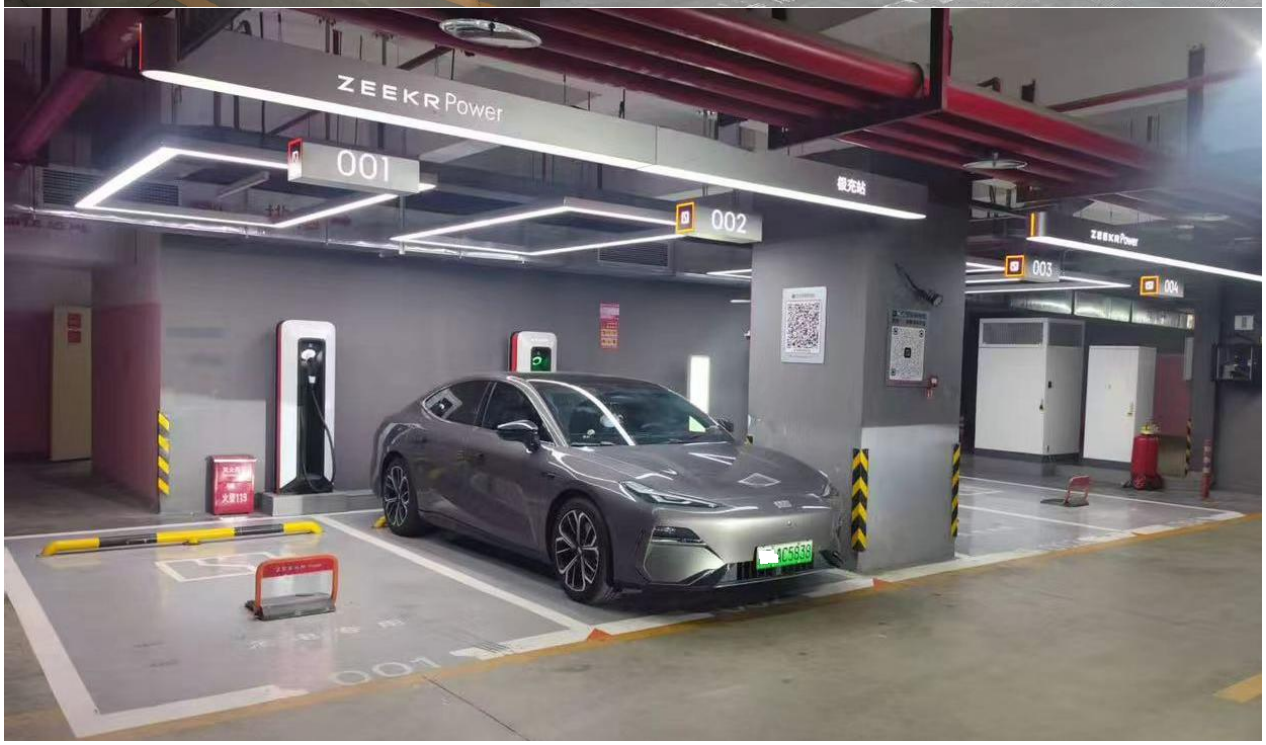
Item	Details
Model / Order Code	SXK-PL20 (4G + Bluetooth standard); RS485 / LPR-camera link / AC options available
Power Options	AC mains adaptor; battery; battery kit
Accessories	Mounting bolts, quick-start guide, remote / app control











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