PRODUCT DATASHEET

SXK-D50

Solar Powered Barrier Gate

The D50 provides automatic vehicle access control where a mains connection is unavailable or costly to install. Cabinet-integrated solar panels charge an onboard battery, while a 24 V brushless drive operates the boom. Wireless remote control reduces the need for power and control cabling at remote entrances.



D50 with straight aluminum boom and integrated solar panels

Maximum straight boom	Adjustable travel time	Solar battery reference
6.0 m	2–6 s	140 W PV | 60 Ah battery

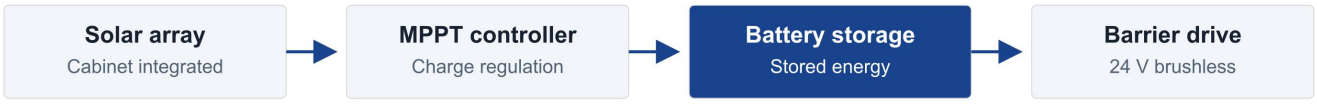
Key benefits

Off-grid operation • Integrated solar array • Stored energy for night operation • Remote access control • Straight boom configurations

Solar and battery values refer to the selected configuration. Final sizing depends on local sunlight, traffic demand and accessory loads.

Product features

An integrated solar supply and configurable barrier drive bring automated access to farms, remote compounds, construction entrances and outdoor parking areas.



Energy flow shown schematically. Battery pack voltage is specified separately from motor voltage.

Solar charging and stored-energy operation

Independent solar operation. The photovoltaic array and onboard energy storage power the barrier without a permanent mains connection. This reduces the need to extend an electrical supply to an isolated entrance.

Panels integrated into the cabinet. Photovoltaic modules on multiple cabinet faces and the top keep the core solar installation compact. Position the cabinet where the array remains clear of shade throughout the day.

Energy storage for low-light periods. The battery stores harvested energy for use after sunset and during reduced sunlight. The selected reference pack is 60 Ah; usable autonomy depends on traffic, weather and connected equipment.

MPPT charging and battery protection. Maximum power point tracking regulates solar energy harvesting. Charge management provides overcharge and over-discharge protection to support controlled battery use.

Brushless drive with adjustable speed. The 24 V DC, 120 W brushless motor offers 2–6 s adjustable opening and closing travel. Select the setting to suit boom length, mass and site conditions.

Obstruction response and detection options. The closing boom can reverse on contact with an obstruction. Compatible radar, loop detectors and infrared photocells can be specified for vehicle detection and lane protection.

Wireless control and system expansion. A 433 MHz radio receiver supports handheld remote operation. Optional access-control equipment can add plate recognition, credentials or remote management through a compatible control interface.

Steel cabinet and visible aluminum boom. The black cabinet uses 2.0 mm cold-rolled steel with a high-temperature baked finish. The aluminum boom carries red reflective markings; a fence boom is available for a more visible lane boundary.

Service access

The lockable cabinet provides access for battery, controller and mechanical inspection. Keep the photovoltaic surfaces clean and check electrical connections, fixings and boom balance during scheduled maintenance.

Detection and access-control devices are selected separately. Their wiring, communications and energy requirements form part of the complete site configuration.

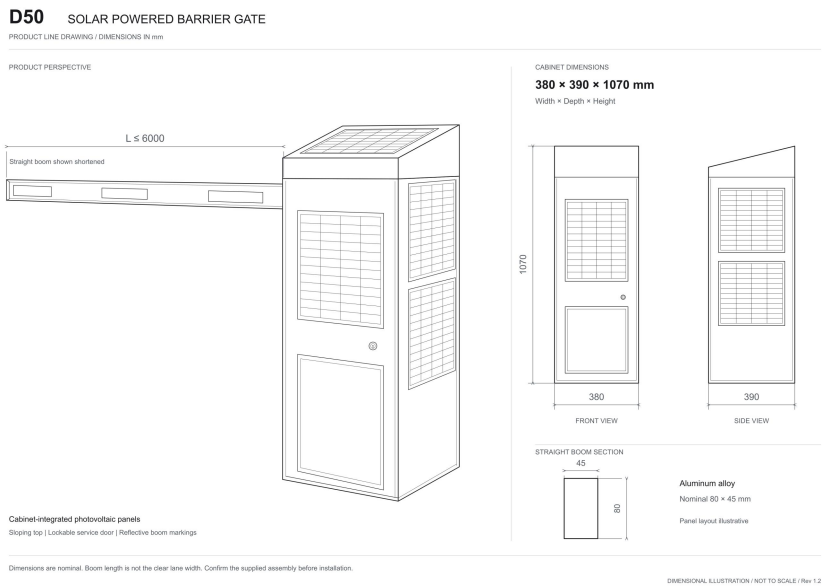
Technical specifications

Parameter	Specification
Product model	SXK-D50
Energy supply	Cabinet-integrated photovoltaic array and rechargeable battery
Solar charging controller	MPPT photovoltaic conversion and charge regulation
Photovoltaic array power	140 W nominal selected configuration
Battery capacity	60 Ah nominal selected configuration
Drive motor	24 V DC brushless motor; 120 W
Opening and closing time	Adjustable from 2 to 6 s, depending on boom configuration
Straight boom	Up to 6.0 m; aluminum alloy; nominal 80 × 45 mm section
Fence boom	Up to 5.0 m; matched aluminum fence assembly
Operating references	6.0 m straight boom approx. 4 s; 5.0 m fence boom approx. 5 s
Cabinet dimensions	380 × 390 × 1070 mm nominal W × D × H
Cabinet construction	2.0 mm cold-rolled steel; high-temperature baked finish
Cabinet color	Black
Reference unit weight	Approx. 65 kg; final supplied assembly dependent
Radio control	433 MHz; encrypted remote transmitter configuration
Remote operating range	Approx. 50 m under suitable open-site conditions
Obstruction response	Reversal on contact during closing
Battery protection	Overcharge and over-discharge protection

Charging and autonomy references

Reference parameter	Selected value
Recharge time	Approx. 4 h under suitable charging conditions
Stored-energy operation	Approx. 5,000 operations per full charge; reference figure

Charging time and operation count depend on irradiance, battery condition, boom load, speed settings and accessory demand. Operation count is not a guaranteed number of complete opening-and-closing cycles or a daily traffic rating. Motor power is distinct from solar array output.



Applications and configuration

Suitable for farm and estate entrances, remote industrial compounds, outdoor parking, construction access and logistics sites where bringing mains power to the lane is impractical.



Example of a site-specific expanded system. Separate panels, camera and communications equipment are additional to the core D50 configuration.

Control and accessory options

Selection	Purpose
Straight or fence boom	Match the boom type, length, holder and balance to the lane.
Radar, loop detector or photocells	Provide compatible vehicle presence or passage detection.
Plate recognition or access reader	Add authorized entry control through compatible site equipment.
Traffic lights or audible warning	Provide supplementary driver information with matched controls.
Remote monitoring and added solar	Configure communications, cameras and any additional solar supply to the site load.

Installation and energy planning

Secure the cabinet to a suitable concrete foundation and maintain clear boom travel. Fit and balance the approved boom, connect the battery and solar circuit, and set the end positions and travel speed. Test remote control, obstruction response and all selected detection devices before handover.

Size the system using the site’s lowest-sunlight season, daily traffic and continuous accessory consumption. Account for shading and battery performance at local temperatures. Optional cameras, radios and lighting require their own confirmed energy allowance.

Ordering information

Specify SXK-D50, straight or fence boom, length, installation side and required speed. Confirm photovoltaic power, battery capacity and pack voltage, desired autonomy, radio version, detectors and access-control equipment. Include the site location and expected daily usage for final solar sizing.

Reference supply configuration includes the barrier, solar and battery system, matched boom, charger, two remote transmitters and installation hardware. Final equipment and quantities are defined by the confirmed order.

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Specifications and supply scope are subject to the confirmed order. Dimensions are nominal. Rev 1.0