SXK-D01

Carbon Fiber Foam Arm Barrier

24 V brushless DC drive | SXK-BAC01 arm configuration



Arm configuration	Operating reference	Configuration detail
Up to 4 m arm	Fastest D01 speed setting	1.35 kg at 2.5 m

The D01 carbon fiber foam arm barrier is designed for highway toll plazas and other vehicle lanes that require fast barrier movement. Its lightweight carbon fiber boom reduces moving inertia, allowing the D01 drive to use its fastest speed setting with a matched arm configuration. A foam sleeve and reflective red and white film complete the round boom.



D01 with a lightweight round foam-covered carbon fiber arm. Application image is an illustrative configuration.

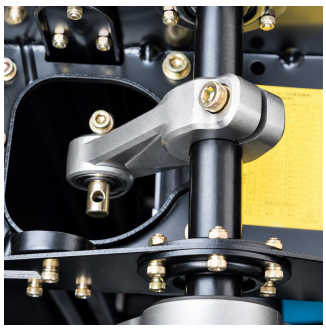
Drive and vehicle protection

A spring-balanced brushless drive combines configurable movement, external vehicle detection and clear lane signaling. The complete installed boom, detection devices and controller settings work together.





Integrated status indication



| Mechanical drive detail



| Swing away mechanism

Brushless motion with controlled stopping. The 24 V DC brushless drive provides independently adjustable opening and closing motion. Set deceleration points, low-speed zones and final approach speeds to suit the boom for smooth travel and stable end positions.

Mechanical strength and thermal management. A die-cast aluminum alloy drive body combines mechanical strength with heat dissipation. The worm-gear reduction and linkage transmit motor output to a spring-balanced boom.

Reversal on contact. During closing, the controller can reverse the boom when an obstruction is detected. Obstruction sensitivity and motor force are adjustable and must be commissioned for the installed assembly.

External detection before contact. Dedicated inputs accept compatible loop detectors or radar and infrared photocells. These devices can reopen a closing boom and control closure after vehicle passage; detectors are selected separately.

Red and green status indication. Integrated cabinet LEDs make the barrier state visible to approaching drivers. Programmable relay modes also support external traffic-light control and open/closed feedback to the access system.

Operation during a power outage. A motor handwheel permits manual movement after power is isolated. Add a matched 24 V backup module when automatic opening on mains failure is required; backup power is an option.

Finish and environmental range. High-temperature powder coating protects the Agate Black and Silver Gray cabinet finish. The published operator range is -40 to +75 °C; select external accessories for the same site conditions.

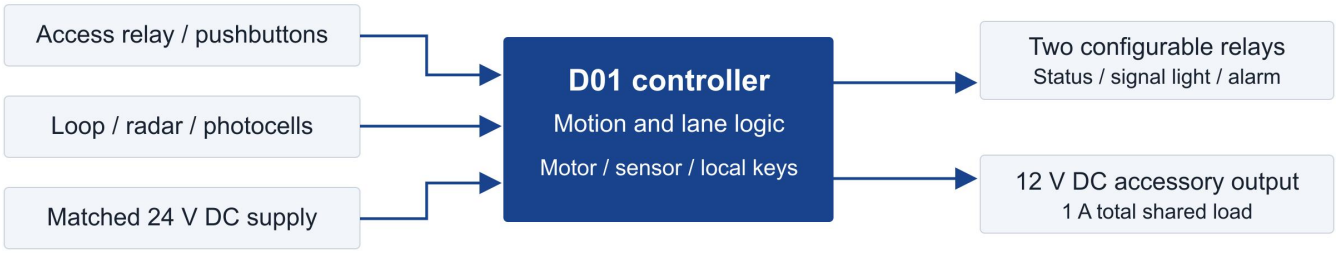
Local access for setup and service. Four controller keys provide local operation and menu setup. The digital display, run/limit indicators and fault codes help technicians identify operating conditions without a separate programming tool.

Cushioning and visibility. A foam sleeve covers the structural tube, while alternating red and white reflective film defines the closed boom for approaching drivers.

Matched root connection. Select the holder or adapter for the 40 or 50 mm carbon tube. Set D01 travel and force response after fitting and balancing.

Lightweight arm for fast cycles. Low moving mass enables the fastest D01 speed setting for the matched configuration. The reference 2.5 m arm with a 50 mm carbon tube weighs just 1.35 kg.

Controller and system integration



Optional backup module connects through the matched power arrangement.

Conceptual interfaces. Field devices, access controller and backup module are selected separately.

Interface	Function	Integration detail
Wired command inputs	Open / close / stop	Contact closure to GND; suitable for a compatible parking controller, access relay or local pushbuttons.
Vehicle detector input	Loop detector or radar	V.D. input and GND; coordinates vehicle-passage closing and reopening during descent. External detector required.
Photocell input	Infrared protection	I.R. input and GND; an active input while closing causes the boom to rise. External photocells required.
Two configurable relays	Status or accessory control	Select the H-16 output mode. Relay functions depend on the selected mode and are not all available simultaneously.
12 V DC auxiliary output	Up to 1 A	For compatible radar or small accessories within the shared load budget. A full LED arm uses its separate specified supply.
Radio receiver connection	Remote operation and pairing	Supports compatible open / close / stop transmitters. Confirm receiver, radio frequency and supply scope for the destination market.
Local display and keys	Setup and diagnostics	Four-digit display, four function keys, run indicator and upper/lower limit indicators.

Operating logic and output modes

Timed closing and vehicle counting. Set a 0–255 s automatic-close delay; 0 disables timer-based closing. Counting mode can retain up to 10 opening commands and match them to vehicle-passage pulses.

Supervised convoy passage. A selectable transmitter mode holds the lane open for a convoy. Loop-triggered closing is suspended in this mode until an explicit close command exits it.

Configurable relay functions. Choose end-position feedback, traffic-light switching, detector-state signaling, a 1 s closed-position pulse or forced-lift alarm output. An external controller can use the pulse to coordinate a second barrier.

Forced-lift event signaling. In the selected alarm mode, manually lifting a closed boom beyond the threshold produces a timed relay output for an external alarm. This requires the appropriate H-16 setting and alarm equipment.

Counting coordinates received commands and passage pulses; it is not an independent tailgating detector. Relay modes share the same two relays. Use compatible external controls where more outputs or coordinated lane logic are required.

Technical specifications

D01 operator

Parameter	Specification
Operator model	SXK-D01
Drive type	24 V brushless DC motor; gear reduction, linkage and balancing spring
Control-panel supply	24 V DC, 7.5 A
AC input version	AC 110–120 V or AC 200–240 V; specify the factory supply version
Motor output power	180 W
Motor speed	780 r/min no-load; 600 r/min rated
Motor insulation	Class F
MCBF	5 million cycles; published operator figure
Opening and closing motion	Independent speed adjustment; deceleration and end-position adjustment
Obstruction response	Automatic reversal during closing; sensitivity and motor force adjustable
Auxiliary power output	12 V DC, 1 A maximum shared accessory load
Command and detection inputs	Open / close / stop; loop or radar; infrared photocell
Relay outputs	Two configurable relays; mode selected through H-16
Cabinet dimensions	340 × 345 × 1030 mm (W × D × H)
Surface and colors	High-temperature powder coating; Agate Black and Silver Gray
Operating environment	-40 to +75 °C; up to 90% RH, non-condensing
Manual movement	Motor handwheel; isolate power before use
Automatic opening on mains failure	With optional matched 24 V backup power module
Manual movement	Motor handwheel; isolate power before use
Arm open/close speed	1.5s

Carbon Fiber Foam Arm configuration

Parameter	Specification
Arm model	SXK-BAC01
Proposed D01 arm range	2 to 4 m; confirm the matched assembly
Structural tube	Carbon fiber; 40 or 50 mm outside diameter
Nominal tube wall	1.5 mm
Finished arm diameter	80 mm including foam and reflective film
Reference mass	1.35 kg at 2.5 m for the 50 mm tube configuration
Root mounting	Exposed tube with matched D01 clamp or adapter

Operating time

Project configured for the complete arm and holder assembly.

The lightweight carbon fiber configuration enables the fastest D01 speed setting. Confirm the final opening and closing times for the ordered length, holder and spring balance.

Motor output power is not total mains power consumption. Nominal boom length is not clear lane width. Published operator environmental ratings do not automatically apply to every accessory.

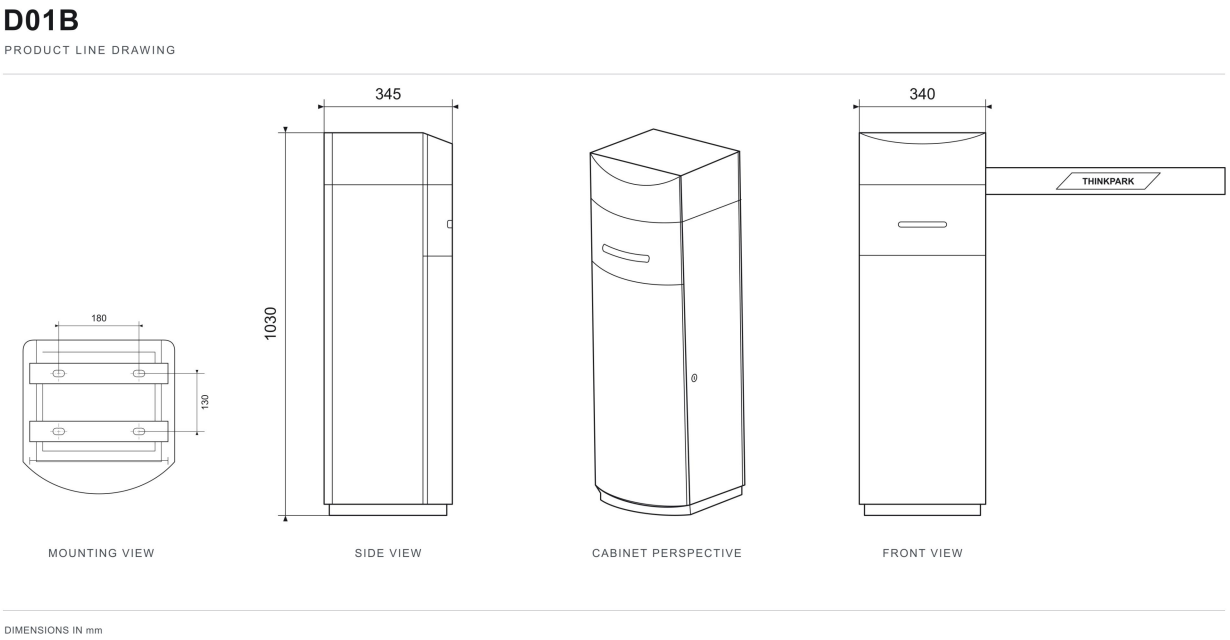
Installation and ordering

Applications and arm selection

Highway toll plazas, toll collection lanes and controlled vehicle lanes where fast barrier movement helps reduce waiting between authorized vehicles.

Selection item	Project requirement
Holder and tube	Specify tube diameter and confirm root engagement, clamp or adapter and fastening pattern.
Finished arm length	Select within the arm maximum of 4 m and confirm usable lane reach.
Motion settings	Balance the actual assembly before setting opening and closing speeds and obstruction response.
Protective covering	Inspect foam, film and tube after contact. The foam covering does not replace vehicle detection.

Cabinet envelope



Cabinet envelope in mm. Use the supplied installation drawing for foundation and anchor positions.

System and installation options

Selection	Available configuration / purpose
Vehicle detection	Compatible radar, inductive loop detector and infrared photocells; selected separately.
Access-system trigger	ANPR, RFID, ticketing, toll or other access equipment through a compatible relay output.
Local and radio control	Open / close / stop pushbuttons; compatible receiver and paired transmitters.
Traffic indication	Built-in cabinet LEDs; external signal lights or illuminated arm with matched wiring and power.
Backup opening	Matched 24 V backup power module; confirm module and supply scope for the ordered assembly.
Boom rest and holder	Matched holder, balancing spring and optional underside rest; the boom remains free to rise.

Ordering information

Specify SXK-D01 with SXK-BAC01 carbon fiber foam arm for a highway toll lane, finished length, 40 or 50 mm tube, matched holder, fastest-speed requirement and toll-controller interface. Confirm AC supply version, external control contacts, detection devices and backup-power scope.

Service planning: inspect joints monthly; review spring balance at 300,000 cycles and plan spring replacement at 500,000 cycles or 12 months under the maintenance schedule. Rebalance after an approved arm or accessory change.

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Specifications and supply scope are subject to the confirmed order. Dimensions are nominal. Rev 2.0