BIONIK 4

Precision at every arrival.



4m
MAXIMUM BOOM

36V
BRUSHLESS MOTOR

5,000
CYCLES / 24 HOURS

An automatic vehicle barrier for residential, commercial, industrial and parking access. Digital motion control, an absolute positioner and configurable lighting in a compact cabinet.

Roger technical sources

0113 403 5583 enquiries@sentryautomation.co.uk sentryautomation.co.uk

02 / ENGINEERING

Compact form. Serious engineering.

01 36V digital brushless motor

Permanent-magnet motor with SENSORED digital encoder technology. Designed for continuous barrier operation with low consumption and absolute mechanical positioning.

02 Control where you need it

The digital CTRL unit is positioned at the top of the cabinet for easy access. The protected electronics basket also houses the transformer compartment and battery support.

03 Precision gear train

Aluminium, steel and bronze construction. Helical gears have a 15° inclination, run on high-quality bearings and sit in accurately machined seats for precise shaft alignment.

04 A resilient structure

Steel and bronze components provide stability. Surface treatment and coatings protect the cabinet against atmospheric exposure.



DIGITAL BY DESIGN

A three-phase sinusoidal motor drive and DSP-based, MOSFET digital controller manage movement without traditional control relays. Native encoder feedback supports precise travel, torque, acceleration and deceleration settings.

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03 / MOTION & OPERATION

Controlled movement. Clear communication.

05 Balanced linkage & springs

Springs are selected for the boom length and are described by the manufacturer as tested for millions of manoeuvres. The linkage incorporates adjustable mechanical stops.

06 Configurable head lighting

An LED circuit follows the aluminium head of the cabinet. Lighting behaviour can be configured through the control unit.

07 Absolute position recovery

The absolute positioner sits on the slow gearbox shaft and manages movement in tenths of a degree. Position is retained through a blackout or manual release, avoiding a new learning cycle.

08 Elliptical aluminium boom

The elliptical section and central rib improve wind resistance, stability and robustness. Integrated upper-side LED signalling is configurable through the controller.

09 Manual release

A standard cylinder lock operates a twin-acting elliptical release lever, providing mechanical unlocking when required.

10 Die-cast boom support

The aluminium support and protection arm connects directly to the gearbox through a system designed to reduce mechanical stress during boom movement.

KEEP ACCESS MOVING

An optional charging card and battery kit support operation during mains failure. The specified Bionik kit uses two 12V, 4.5Ah batteries. Actual autonomy depends on configuration, battery condition and use.

Roger technical sources

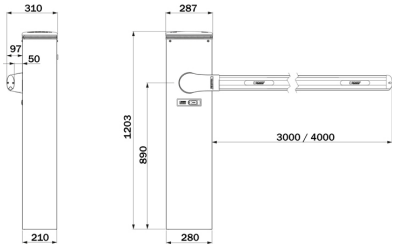
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04 / TECHNICAL SPECIFICATION

The numbers that shape the installation.

Product codes	BI/004 (230V) / BI/004/115 (115V)
Maximum boom length	Up to 4m
Mains supply	230V AC or 115V AC, 50/60Hz, ±10%, by variant
Motor supply / quantity	36V DC brushless / one motor
Maximum power	220W
Duty / use	Continuous
Torque / gearbox	0–200Nm / irreversible
90° opening time	2–6 seconds with boom up to 3m; 3–6 seconds with boom up to 4m
Daily operating cycles	5,000 open / close cycles over 24 hours non-stop
Operating temperature	−20°C to +55°C
Protection rating	IP54
Encoder	Absolute digital / Digital SENSORED
Controller	CTRL
Packaged product weight	46.2kg
Cabinet dimensions	280 × 210 × 1,203mm (published product size)
Release	Twin-acting elliptical lever with standard cylinder key
Packages per pallet	8

INSTALLATION ENVELOPE / mm



Manufacturer drawing distinguishes cabinet envelope and base dimensions. Confirm foundation, clearance and mounting details against the selected assembly.

Roger technical sources

05 / DIGITAL CONTROL

Configure the movement. Connect the site.

Motor management	SENSORED technology
Magnetic encoder	4,096 pulses per revolution
Position limits	Adjustable open / closed positions; mechanical travel stops
Force settings	Nominal movement, start-up and deceleration
Obstacle response	Detection and motor reversal, including position recovery mode
Speed settings	Opening and closing
Deceleration	Opening and closing
Approach distance	Opening and closing
Soft start	Opening and closing acceleration
Safeguarded movement	Opening / closing function
Stopping & braking	Configurable stopping space and motor braking
Master / slave	Partial opening control
Hold-to-run	Human-presence control
Condominium mode	Available
Safety configuration	Configurable safety devices
Installation test	Programming-button test
Thermal protection	Inverter thermal protection

Radio receivers	H93/RX22A/I fixed code; H93/RX2RC/I rolling code
Accessory supply	24V DC
Cabinet warning light	Included 24V DC LED
Boom LED provision	24V DC / 4m strip
Automation status light	Barrier-open / automation-on output
Courtesy light output	40W
Automatic closing	Timed and guaranteed closing function
Safety edges	8.2kΩ or standard edge management
Battery operation	Optional 2 × 12V DC, 4.5Ah
Magnetic electro-lock	Optional management
Vehicle loop detection	Optional management
Clock	Included
Parking access mode	Included
External status output	Optional configuration
Factory reset	Restore default values
Usage information	Motor-use information available
Password protection	Security-password management
Anti-breakthrough	System enabling function

Functions are shown for the standard BI/004 configuration in the supplied literature. Availability, programming and optional equipment must be confirmed for the selected controller and firmware.

Roger technical sources

06 / BOOMS & INSTALLATION ACCESSORIES

Build the right barrier assembly.

SP/72/01	Spring diameter 72 mm for barriers.
KT231	Fixing plate for fixed supports codes BAFS/01, BAFS/02, BAFS/03, BAFS/04, BAFS/05.
BAFS/01	Fixed support with rubber, not adjustable, for booms.
BAFS/03	Fixed support with rubber, not adjustable, with predisposition for bolt, for booms.
BAFS/02	Fixed support with rubber, adjustable telescoping, for booms.
BAFS/04	Fixed support with rubber, adjustable telescoping, with predisposition for bolt, for booms.
BAMS/01	Mobile support for booms.
BARK/02	Painted aluminum skirting, with stainless steel screws mounted on bronze bushings. Single module length 2 meters.
BT12V45	Battery 12V 4.5 Ah (1 pc).
DLD1/24	Loop detector for 1 loop, 2 output, 24V AC/DC.
DLD2/24	Loop detector for 2 loops, 2 outputs + output alarm, 24V AC/DC.
SP/61/01	Spring diameter 61 mm for barriers.
RL670	European cylinder key (DIN) for release system series SMARTY - BIONIK.
BA/68/3	White painted aluminum boom, 3 meters long, with LED cover profile and impact resisteng rubber profile.
BA/68/4	White painted aluminum boom, 4 meters long, with LED cover profile and impact resisteng rubber profile.
ALED/4C	4-metre LED strip with connection cable for barrier boom (red colour).
BI/BAT/KIT	Kit for emergency batteries charger for Brushless digital controller CTRL 36V DC with plug-in card, with 2 recovery batteries 12V DC, 4.5 Ah. Kit for BIONIK barrier.
BI/BCHP	Plug-in card, batteries charger, for Brushless digital controller CTRL 36V DC, without recovery batteries, for BIONIK barrier.

Accessory selection is configuration-dependent. Listed items follow the current manufacturer product page; confirm the complete assembly with quotation.

Roger technical sources

07 / POWER, DETECTION & SPECIFICATION

Complete the system. Make access effortless.

KT239	Kit DIN rail with magnetic supports.
BAMS/01/EXT	Extension 20 cm for mobile support BAMS/01.
BAFS/05	Adjustable fixed support with vandal-proof magnetic suction cup, complete with B72/DGS demagnetizer card, for booms.
SND/BA/68/DW	Articulated joint 90° with lower tie rod for boom BA/68.
SND/BA/68/UP	Articulated joint 90° with upper tie rod for boom BA/68.
SP/48/01	Spring diameter 48 mm for barriers.
B73/EXP	Signal status board, 2 output for CTRL - CTRL/P.
KT242	Kit for cable passage with magnetic support for barriers.
ACS/BA/60	Break-away system for barrier, compatible only with BA/60/3 boom arm.
R99/BASB20	Pack of 20 reflective adhesive stickers for boom barrier.
SND/BA/68/UP/RD	Articulated joint 90° with upper tie rod (lowered version) for boom BA/68.
ACS/BA/68	Break-away system for barrier, compatible with BA/68/3 and BA/68/4 boom arm.
KT247	Support for rectangular boom for BI/004 up to 4 m and max. 3.6 kg.
B73/LTM	RGB boom light and traffic light control device for CTRL.
ALED/4C/RGB	4-metre multicoloured RGB LED (red, green + other colours) strip with connection cable for barrier boom.
BI/BLED/4/RGB	Multicoloured RGB LED strip (red, green + other colours) with connection cable for BI/004 barrier header.
SP/48/G14	Spring diameter 48 mm only for BI/004 with boom less than 2.2 m.

Accessory selection is configuration-dependent. Listed items follow the current manufacturer product page; confirm the complete assembly with quotation.

Roger technical sources

08 / PROJECT SPECIFICATION

Plan the entrance. Specify the complete system.

Clear opening	Width, boom length, available headroom and cabinet position.
Traffic duty	Vehicles per day, peak arrivals and required opening speed.
Site layout	Entry / exit direction, pedestrian routes, road levels and swept paths.
Activation	Transmitters, access control, intercom, loop detection or timed operation.
Safety & signalling	Photocell positions, detection loops, boom LEDs, reflective strips and supports.
Power & cabling	Supply variant, conduit routes, isolation and optional backup batteries.
Foundation	Structural base, anchor arrangement, drainage and service clearance.
System integration	Master / slave operation, fire / site controls and status outputs.

PRODUCT FINISH

Cabinet: RAL 9006 arabesque grey. Head: black arabesque silver finish. Boom: matt RAL 9010. The boom support is RAL 9005 plastic. Confirm selected finishes and accessories with quotation.

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Send the site photographs, opening dimensions, operating requirements and postcode to enquiries@sentryautomation.co.uk or call 0113 403 5583.

Roger technical sources