

Commercial & Industrial Gate Automation Systems

Sliding and swing gate opener selection and wiring guide

Purpose

Use this form to collect the engineering inputs required before BAISEN ACCESS recommends a gate opener. Capacity labels such as 800 kg, 1500 kg, or 2000 kg are selection classes, not a substitute for gate-force, duty-cycle, wind, environment, and safety verification.

1. Site and Gate Inputs

Field	Buyer / integrator input	Required evidence
Project / country	_____	Site address and use case
Gate type	Sliding / dual swing / single swing	Drawing and clear opening
Gate mass / leaf size	_____ kg; _____ m	Measured gate data
Manual movement force	_____ N	Force across full travel
Slope and wind exposure	_____	Survey / gate surface area
Peak cycles	_____ cycles/hour	Observed or forecast traffic
Power and backup	Voltage: _____ Backup: _____	Measured supply and outage target
Access-control input	Relay / keypad / LPR / app / other	Interface and fail-state diagram

2. Sliding Gate Capacity Classes

Class	Typical project starting point	Drive options	Mandatory checks
Up to 800 kg	Commercial entrances with well-aligned rack and track	24V BLDC or AC, model dependent	Push force, duty, speed, rack, safety
Up to 1500 kg	Factories, compounds, and heavier commercial gates	Heavy-duty AC or approved DC series	Inertia, slope, gearbox, wind, peak cycles
2000 kg class	Industrial sliding gates after structural and force review	Industrial geared operator	Measured force, foundations, release, service access

3. 24V DC Brushless vs AC Motor

Decision factor	24V DC brushless	Traditional AC
Motion control	Electronic acceleration, deceleration, current and position control	Model dependent; often simpler or fixed-speed control
Backup power	Low-voltage battery integration can be practical	May require UPS, inverter, or a dedicated design
Service	No carbon brushes; controller diagnostics may be available	Familiar architecture; capacitor and contactor checks may apply
Selection warning	Verify electronics, sensors, gearbox, and actual temperature rating	Verify duty cycle, starting torque, thermal limit, and voltage quality

4. Dual Swing Gate Opener Architectures

Architecture	Best suited to	Engineering checks
Linear actuator	Conventional swing leaves where post geometry supports correct bracket placement	A/B dimensions, leaf angle, stroke, wind, manual release, stops
Articulated arm	Wide pillars or geometry that is unsuitable for a straight linear actuator	Arm sweep, wall clearance, pedestrian pinch points, leaf load

5. Climate Adaptation Verification Matrix

Project condition	Required configuration review	Acceptance evidence
Cold project target: -30°C to -40°C	Motor, gearbox lubricant, bearings, seals, controller components, cable flexibility, heater and condensation plan	Exact-model cold-soak test, final gate load, startup current, opening time
Hot/dust project target: up to +65°C	Controller component rating, enclosure temperature, derating, ventilation strategy, seals, filters, dust paths and cable glands	Exact-model test boundary, cabinet-temperature log, peak-duty cycle test
High humidity / rain	Base height, enclosure, glands, drainage, conformal coating where specified, surge and grounding	Ingress inspection and electrical safety checks

Important: the temperatures above are project design targets. They are not a blanket BAISEN product-series rating. The final quotation must identify the exact model, configuration, evidence, and exclusions.

6. Safety, Controls, and Documentation

Selection item	Required project decision
Safety devices	Photocells, safety edges, loops, radar, emergency stop, and force testing selected by risk assessment
Opening command	Dry-contact relay, keypad, access controller, LPR, receiver, or mobile module; voltage and fail state documented
Power failure	Manual release, battery/UPS target, required cycles, and authorized operator procedure
Handover	Wiring diagram, foundation/bracket drawing, settings, remotes, spares, maintenance and troubleshooting documents
Commercial confirmation	Exact model, quantity, accessories, voltage, OEM scope, delivery terms, warranty, and exclusions

7. Recommended BAISEN ACCESS Product Starting Points

800 kg 24V DC: BS-BG800. 1000 kg high-speed 24V DC: BGH series. 1200-1500 kg AC: BS-A / BS-IZ series. 2000-3000 kg industrial class: BS-SZ series. Swing projects: select the exact linear-actuator or articulated-arm model after confirming pillar and leaf geometry.

Request Review

Send the completed inputs, gate drawing, site photos, destination country, quantity, required accessories, and target delivery date to BAISEN ACCESS.

Website: <https://baisenaccess.com/contact-us/>

WhatsApp: +86 181 1284 7046

Product catalogue: <https://baisenaccess.com/products/>

8. Gate Opener Wiring and Interface Guide

This guide defines the information an installer must confirm before wiring. Terminal names, voltage levels, polarity, and supported functions vary by controller. Always use the wiring diagram supplied with the approved model and disconnect power before installation.

Typical Control Connections

Connection	Typical purpose	Verification before wiring
AC mains / DC supply	Operator and control-board power	Voltage, frequency, grounding, breaker, cable size, and local electrical rules
OPEN / START / COM	Dry-contact opening or step-by-step command	Normally-open or normally-closed logic, pulse duration, shared common, and input voltage
PHOTO / SAFETY	Photocell or safety-edge input	Fail-safe logic, transmitter/receiver supply, test method, and response while opening/closing
LOOP / RADAR	Vehicle presence or opening trigger	Relay output, presence/impulse mode, sensitivity, and interaction with auto-close
LOCK / LAMP	Electric lock or warning light	Output voltage/current, relay isolation, delay, flash pattern, and suppression device
BATTERY / UPS	Operation during power interruption	Supported chemistry, voltage, capacity, charger, enclosure, expected cycles, and maintenance
STATUS / AUX	Gate-open/closed feedback to access control	Dry contact or powered output, state definition, fault state, and controller compatibility

Recommended Integration Sequence

1. Confirm the exact operator and controller model. 2. Isolate mains power. 3. Complete motor, limit, and protective-earth wiring. 4. Commission travel limits and force settings. 5. Connect and test photocells and safety edges. 6. Add relay commands from LPR, keypad, intercom, or access controller. 7. Test obstacle stop/reverse, manual release, power-failure behavior, and every safety input. 8. Record final settings and provide the approved wiring diagram at handover.

Integrator RFQ Checklist

Send controller photos, terminal diagram, destination voltage, gate type and load, safety devices, required relay commands, status-feedback needs, battery-backup target, SDK/API use case, quantity, and OEM branding scope. BAISEN ACCESS will confirm the supported interface for the selected model.

Important: a generic terminal name is not proof of electrical compatibility. Never connect an external powered output to a dry-contact input without an approved interface or isolation relay.