EB-180

EB-185

RoHS Compliant

Dimension

Unit: mm

Statement

The EB180 electric dropbolt is very lightweight. The 25 mm wide faceplate is designed for virtually on installation all types of doors and frames. The rectangular-shaped (EB185) and arc-shaped (EB180) faceplate is used to meat the different needs.

Specifications

- Fail-Safe(Power to Lock)
- Operating Voltage: 12/24VDC (voltage tolerance: ±10%)
- Current Draw: Pull in: 0.9A, Holding: 0.2A/12VDC (at temperature 20°C)
- Magnetic bolt status output (SPDT rated 3A/12VAC,1.5A/250VAC)
- Operating Temperature: -10~+45°C
- Humidity: 0~95% non-condensing.
- Relock Time Delay : 1, 3 ,6 ,9seconds
- Tested to 500000 cycles.
- Face Plate Material: stainless steel
- Net Weight : 0.6 Kg
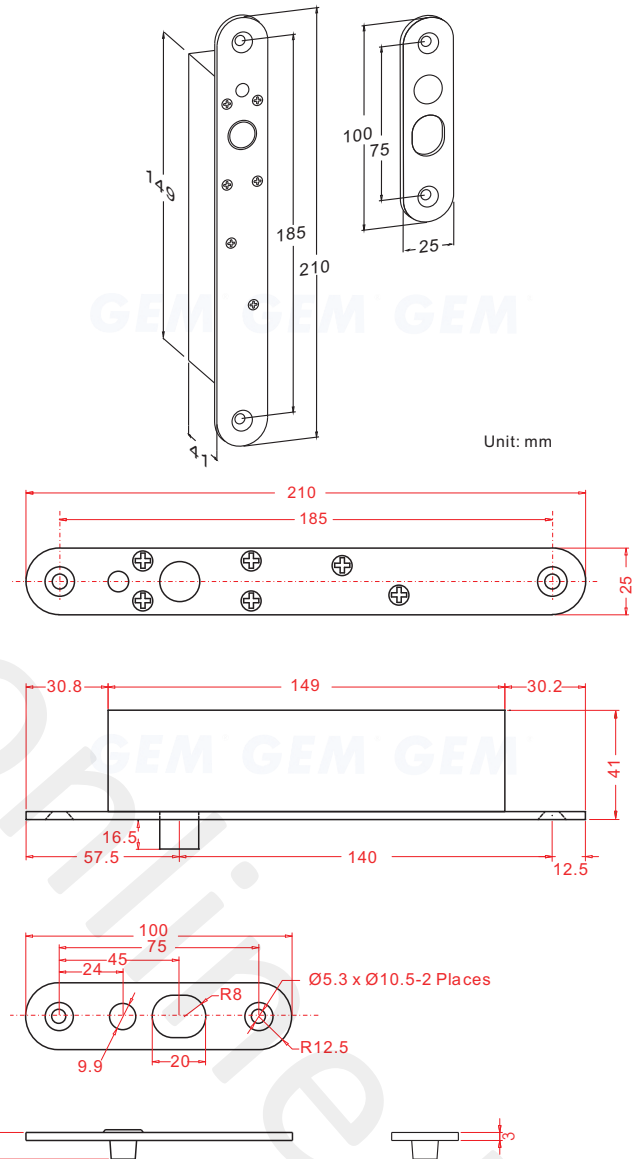
Double Acting Doors

EB180 Electric dropbolt is specially designed for use on double swinging doors. They can also be installed on both out and inswing doors.
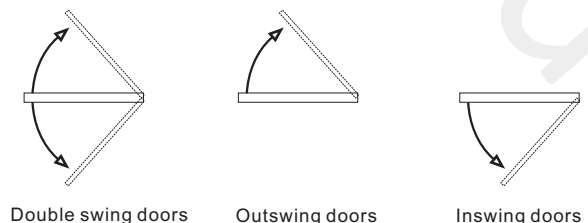
Double swing doors   Outswing doors   Inswing doors
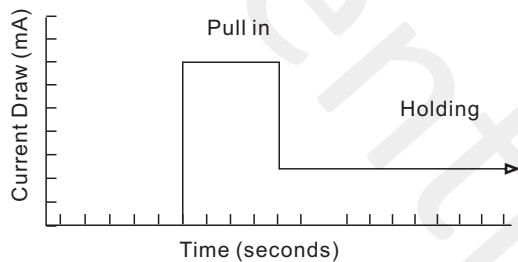
Long life solenoids

Special designed solenoid for strength and long life operating lifetime with guaranteed 500,000 operations.

Energy Saving Design

After the dropbolt is completely locked , the current draw changes from 0.9A into 0.3A to prolong its lifetime.

Pull in

Holding

Current Draw (mA)

Time (seconds)

Horizontal or vertical installation

GEM's electric dropbolts can be installed either horizontally at the top or bottom of the door frame or vertically on the side of the door frame.
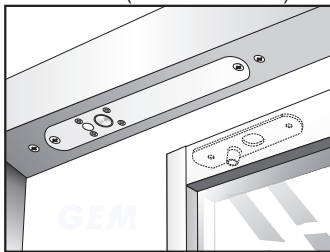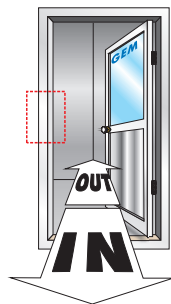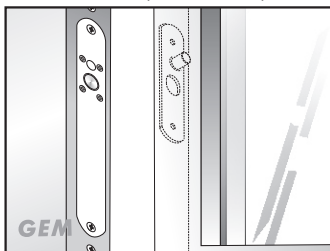
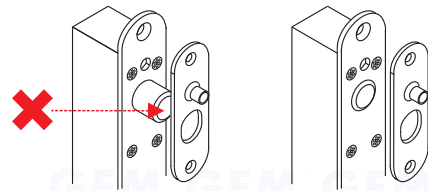**Fig. A** Horizontal Installation (Frame Header)

OUT

IN

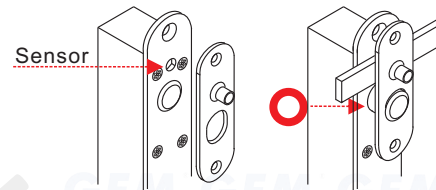**Fig. B** Vertical Installation (Side Jamb)

OUT

IN

Auto-detective circuitry

Unique self-detective logical circuitry designed to retract until the door is properly closed.

Vandal Resistant Circuitry

The reed sensor automatically disconnect once the bolt is completely locked to avoid unauthorized access attempts.
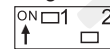
Sensor

Relock Time Delay

Adjustable Time Delay of 1,3,6,9 seconds with 2 way DIP switch. (Default Value: 1 sec.)

Relock time setting

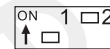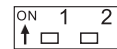| ON 1 2	ON 1 2	ON 1 2	ON 1 2
1 second	3 seconds	6 seconds	9 seconds

Warranty

The product is warranted against defects in material and workmanship while used in normal service for a period of 1 year from the date of sale to the original customer. The GEM policy is one of continual development and improvement; therefore GEM reserves the right to change specifications without notice.

Electric Dropbolt Installation Instruction
(Fail-Safe Series)

Specifications

| Series	EB180/5	EB190/5	EB220	EB262	EB300	EB400
Power Input	12/24 VDC	12/24 VDC	12 VDC	12 VDC	12 VDC	12 VDC
Voltage Tolerance	±10%					
Current Draw: (at temperature 20°C)	Pull in: 0.9A Holding: 0.2A /12VDC	Pull in: 0.9A Holding: 0.2A /12VDC	Pull in: 0.9A Holding: 0.3A /12VDC	Pull in: 0.9A Holding: 0.3A /12VDC	Pull in: 0.9A Holding: 0.3A /12V DC	Pull in: 0.9A Holding: 0.3A /12V DC
*Monitoring output	BSS	BSS DPS	BSS	BSS	DPS	BSS
Operating Temperature	-10~+45°C					
Humidity	0~95%					
Relock Time Delay (Default setting)	1,3,6,9 seconds Default: 1 second					
Auto - detective circuitry	√	√	√	√	√	√

Note: BSS= Bond sensor status (Locked or unlocked) ; DPS= Door position status (Door open or closed)

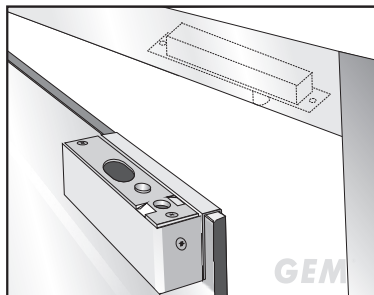**Standard frame (1.75" frame) mortise mount**
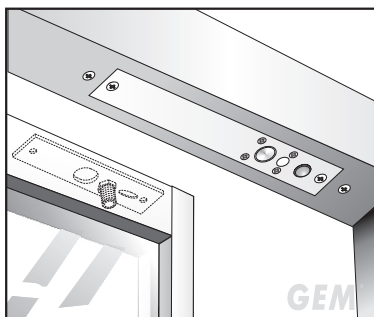
EB180/185
EB190/195
EB220
EB262
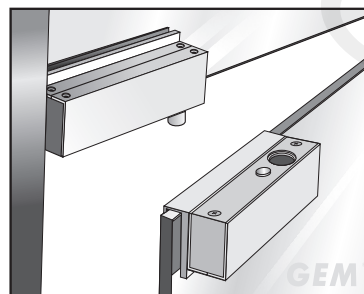
Surface mount (narrow frame)
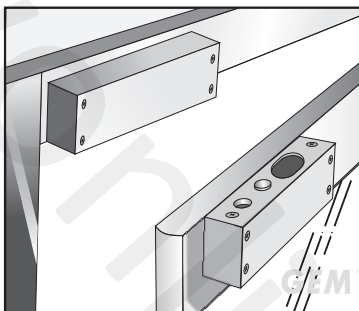
EB300
EB400

With UBK-262 for Frameless Glass door

EB220
EB262

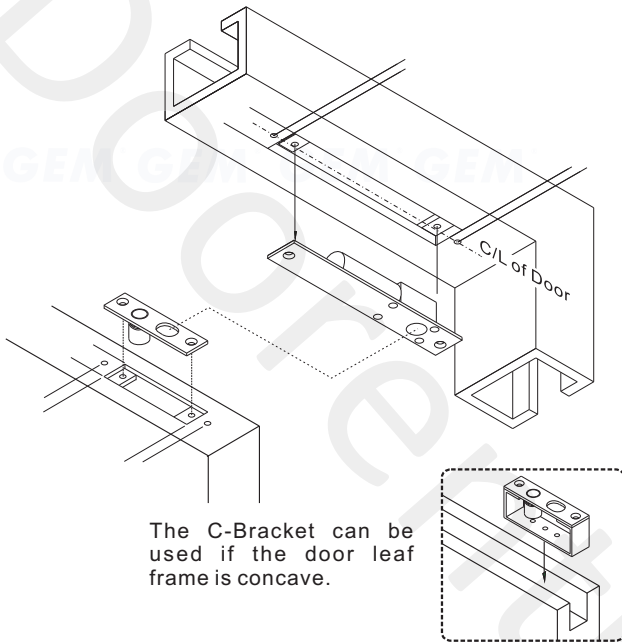**Installation on Frameless Glass Door / Wall**
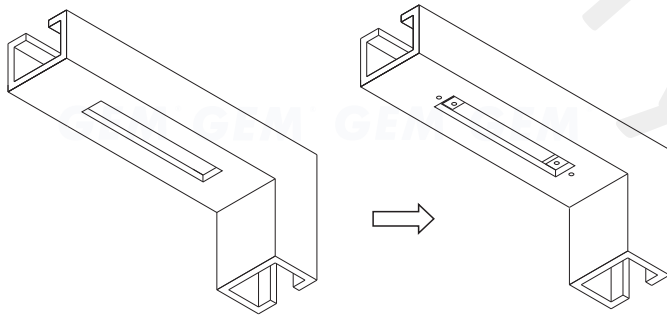

EB200NVGL
EB300VGL
EB195VGL

Mortise Mount
Hollow Metal Door Frame

Please refer to the particular pattern template for each specific cutting size and the location to drill the screw holes.
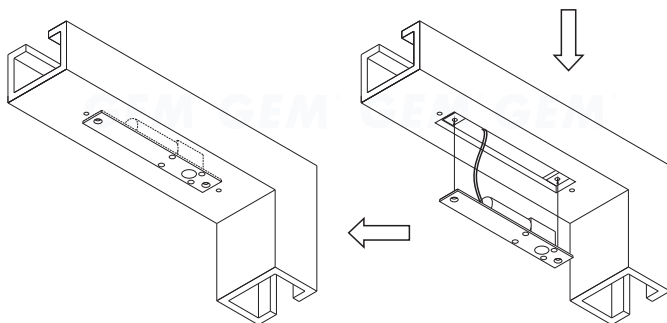
The C-Bracket can be used if the door leaf frame is concave.

Hole cutting

Position screws for fasten Fixing Lugs.

Assemble the lock and test it

Connect the power

General Installation Instructions:

Ensure the width and depth of the door frame, door leaf (hollow metal door) are enough to install the lock body. Also check if it is possible to place the wires inside the door frame.

Ensure the double action door swings back to correct position after use to make sure the electric dropbolt locks up quickly. Therefore the door hinge door of the double action door is very important.

Check if the regulated power supply or controller can provide the current draw (pull in: 0.9A/12VDC , holding: 0.3A/12VDC) and that the voltage can be maintained during operation under all circumstances.

Warning:

The connection of an incorrect voltage may result in damage not covered by the product warranty. The selection of appropriate power supply cable is very important to ensure lock receives sufficient power to operate. This product has been designed for use in weather protected areas and under normal circumstances does not require any maintenance.

DO NOT OIL OR LUBRICATE.

This product must be used in conjunction with a quality floor spring or door closer to ensure positive realignment on closing.

Adjustable Position Bolt

Adjust the gap
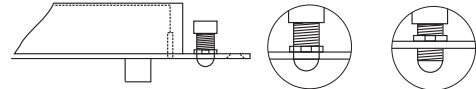
Adjust the flexibility
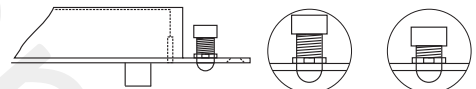
Optional Bracket
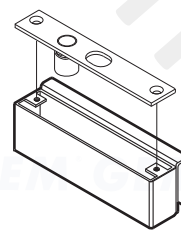
UBK-262 Bracket
For 10 or 12 mm thickness of glass

Correct the center line distance approx20mm

C/L

Lock

Header

Inswing
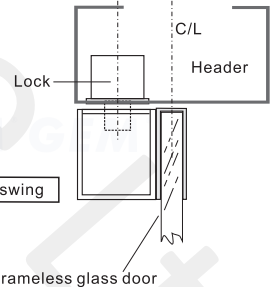
Frameless glass door

The UBK Bracket can be used on a frameless glass door. With optional 10mm or 12mm depending on the glass thickness. It is suitable for models EB-220 and EB-262. Installations: Fix the strike plate on the UBK-262 Bracket, add silicone for a firm grip on the glass door or on the bracket .

EB300-Surface Mount

Header

Header

Lock Body

M6 x45 Screw

Blind Nut

M6 x45 Screw

Blind Nut

Strike Body

Blind Nut

Door

Door

Inswing

EB40-Surface Mount

Header

Wiring cable

EB-400

Blind Nut

Door

The Installation of Blind Nuts

Tool

Blind Nuts

Drill 9.4mm holes for M6 Blind Nuts.

Insert two Blind Nuts into separate holes.
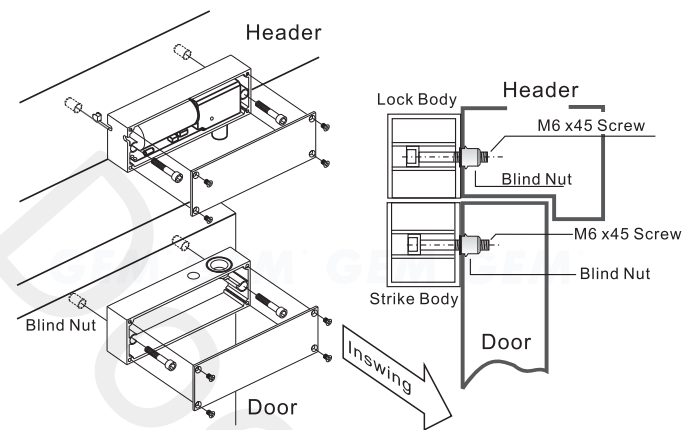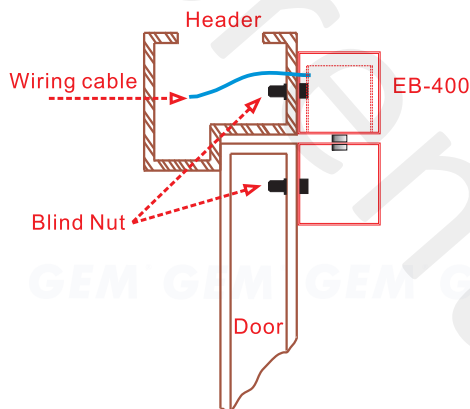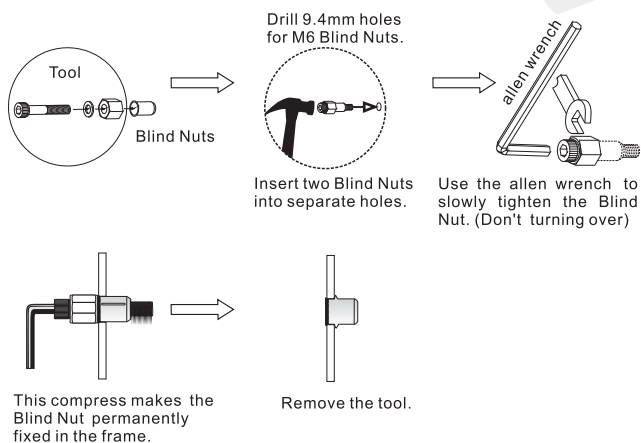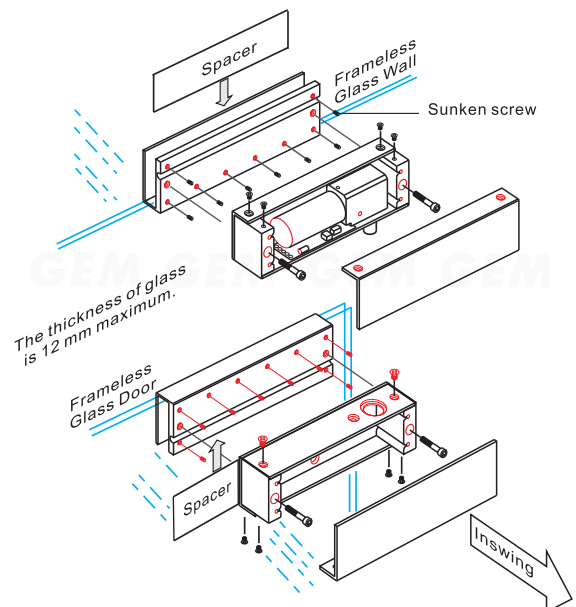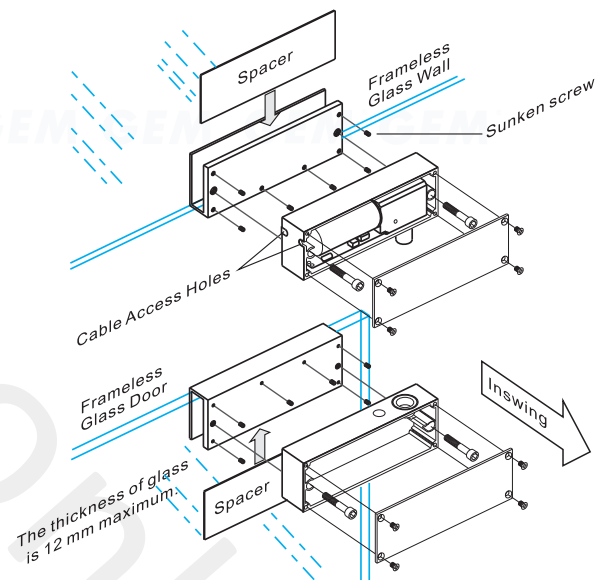
allen wrench

Use the allen wrench to slowly tighten the Blind Nut. (Don't turning over)

This compress makes the Blind Nut permanently fixed in the frame.

Remove the tool.

EB195VGL for Frameless Glass Door/ Wall

Spacer

Frameless Glass Wall

Sunken screw

The thickness of glass is 12 mm maximum.

Frameless Glass Door

Spacer

Inswing

EB300VGL for Frameless Glass Door/ Wall

Spacer

Frameless Glass Wall

Sunken screw

Cable Access Holes

Frameless Glass Door

Inswing

The thickness of glass is 12 mm maximum.

Spacer

Installation:
1. Clean the glass before installing , strike the face place on the glass (indoor)

2. The interior width of VGL bracket is 14mm , spacer thickness is 1 mm.

3. Stick the spacer in accordance to the glass thickness (10~12mm)

4. Put silicone inside the VGL bracket to hold firmly.

5. Lock the Sunken screw.

6. Use allen wrench to install the cover.

Caution:
1. Spacers are installed indoor.
2. Lock the sunken screws slightly or it will break the glass.

Energy Saving Design

Current Draw (mA)

Ⓑ Pull in

Ⓒ Holding Ⓓ

Ⓐ

Time (seconds)
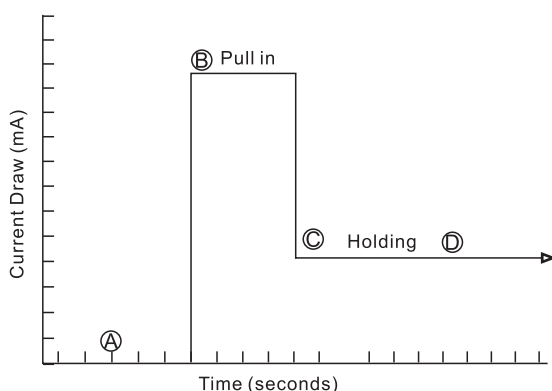
Energy saving design : All Electric Dropbolt
Auto - detective circuitry : Unique self - detective logical circuitry designed to retract until the door is properly closed .

Ⓐ When the sensor magnet in the Strike Plate detects the reed in the lock body, the Dropbolt projects immediately.

Ⓑ After relock time delay for the Electric Dropbolt to activate the pull in motion, the continuing projecting motion will not stop until the Dropbolt locked the door properly.

Ⓒ Under the energy saving design, after the dropbolt completely locked, the current draw will drop from high pull in current to low, continuing 'holding force'.

Ⓓ The reed in the lock body will automatically switch off at the same time when the dropbolt is locked.

Caution:
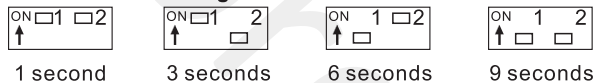Make sure that the "+" and "-" wires are connected correctly. Failure to observe polarity will result in a short circuit and is not covered by product warrant.
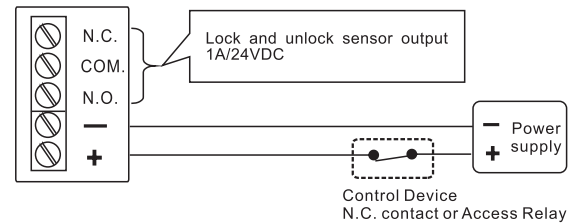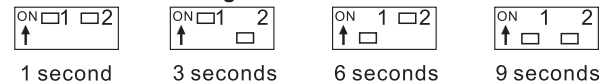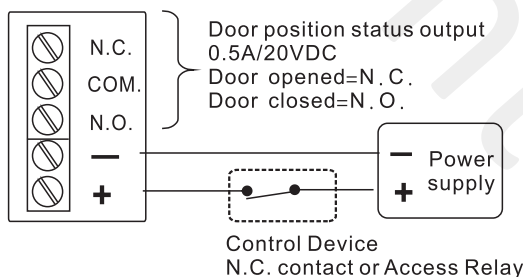
EB190/195/195VGL

+
−
N.O.
COM.
N.C.
N.C.
COM.
N.O.

+ Power supply
−

Control Device
N.C. contact or Access Relay

Lock and unlock sensor output 1A/24VDC

Door position status output 0.5A/20VDC

Relock Time Setting

ON □1 □2	ON □1 2	ON 1 □2	ON 1 2
1 second	3 seconds	6 seconds	9 seconds

EB180/185,EB220, EB262

N.C.
COM.
N.O.
−
+

Lock and unlock sensor output 1A/24VDC

− Power supply
+

Control Device
N.C. contact or Access Relay

Relock Time Setting

ON □1 □2	ON □1 2	ON 1 □2	ON 1 2
1 second	3 seconds	6 seconds	9 seconds

EB300, EB300VGL

N.C.
COM.
N.O.
−
+

Door position status output 0.5A/20VDC
Door opened=N.C.
Door closed=N.O.

− Power supply
+

Control Device
N.C. contact or Access Relay

Relock Time Setting

ON □1 □2	ON □1 2	ON 1 □2	ON 1 2
1 second	3 seconds	6 seconds	9 seconds

Trouble Shooting

Problems	Possible Cause	Solution
Dropbolt does not activate when the door closed.	The gap between the strike plate and the electric dropbolt lock is far.	Adjust the distance between the reed in the lock body and the sensor magnet in the strike plate within 5 mm.
	Low in voltage / current.	Make sure the output voltage and the current are large enough to pull in 0.9A/12VDC.
The dropbolt keeps the projecting motion.	Low in voltage / current.	Make sure the output voltage and the current are large enough to pull in 0.9A/12VDC.
	The dropbolt is not locked correctly.	Adjust the door closer or the door hinge for the door leaf to close in the correct position.
		If solution 1. cannot work, it is recommended to change the double action door to single action door.
The dropbolt cannot retract.	Strike Plate misaligned.	Release or sway the door to release the latch bolt to open the door.
		If solution 1. cannot work, it is recommended to change the double action door to single action door.