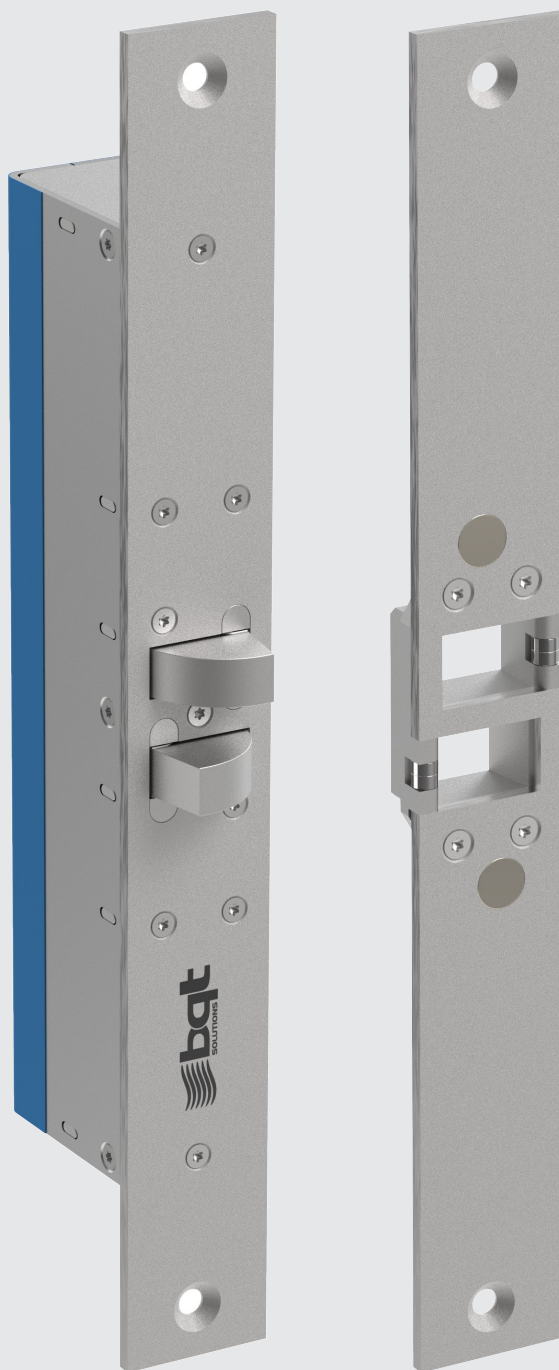




YD30D Cobalt Double Sideload Lock

Installation and Operating Instructions

DN 01002/006 2025-10-01

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1. Document Information

1.1 Contents and Purpose

This document describes installation, connection, operation, and maintenance of the lock YD30D. Read the document carefully and observe the instructions it contains. They contain important information for reliable installation and trouble-free operation.

1.2 Target Group

Target group of these instructions are:

- Installer
- Service Technician

Installers and service technicians are skilled personnel who have the specialist knowledge required for installation, commissioning, and maintenance.

2. Safety and Compliance

2.1 Safety Information



WARNINGS

- The handling and installation of this device is recommended for a professional.
- Use of an unsuitable power supply unit may cause product failure or injury.
- Do not remove the cover plates or face plate.
- Ensure installation does not expose sharp edges of the product to users.



UL REQUIREMENTS

- If the unit is installed on a fire exit door the product installation shall be allowed only if accepted by a local AHJ authority having jurisdiction and comply with NFPA 101.
- The unit is to be connected and controlled via a UL 294 or FWAX7 listed Access Control Unit.
- That the unit shall be installed in accordance to NFPA 70 along with any additional requirements imposed by the local authority of jurisdiction.
- Do not connect the unit to a receptacle controller by a switch.
- If the unit is installed in conjunction with panic hardware the lock shall be installed in a manner to not impair panic device operations.
- The unit shall be powered by a UL 294 or UL 2610 listed power supply with a Class 2 power limited output.
- All factory tested grades were not evaluated by UL.
- UL1034 rating only applies when product is installed in a morticed application.
- UL10C rating only applies when product is installed in vertical position.

2.2 Regulatory Compliance Information



This product is in compliance with the CE Directives including Electromagnetic Compatibility (EMC) Directive 2014/30/EU, and the Restriction of the use of certain hazardous substances (RoHS) Directive 2011/65/EU, including amendment (EU) 2015/863.

The CE Declaration of Conformity can be found at www.bqtsolutions.com.



This product is in compliance with the United Kingdom (UK) Legislation including the Electromagnetic Compatibility Regulations 2016, and the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

The UKCA Declaration of Conformity can be found at www.bqtsolutions.com.



This appliance is labeled in accordance with European Directive 2012/19/EU concerning used electrical and electronic appliances (waste electrical and electronic equipment - WEEE). The guideline determines the framework for the return and recycling of used appliances as applicable throughout the EU.

In Countries Outside the European Union and EEA (Norway, Iceland, and Liechtenstein): If you wish to dispose of this product please contact your local authorities and ask for the correct way of disposal.



This product is in compliance with the Regulatory Compliance Mark (RCM) for Australia and New Zealand.



This product is regulated by the UL/CSA and bears UL/C-UL certification.

Certifications: UL294, UL1034, ULC-S533-15, UL10C

UL File Number: BP21205, R41161

UL Categories: CVXY, ALVY, FWAX7, GWXT, GWXT7

UL294	Line Security: Level I Standby Power: Level I Attack: Level I Endurance: Level IV
UL1034	Static Strength: 1,500 lbf (6,673 N) Dynamic Strength: 70 ft·lbf (95 J) Endurance: 250,000 cycles
UL10C	Suitable for fire and smoke protection doors (3 hours fire rating)



Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



Innovation, Science and Economic Development Canada (ISED)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to ICES-003 Issue 7.

CAN ICES-3(B) / NMB-3(B)

AS4145.2:2008

Durability Rating: D8, Security Rating: S8

*Using an Independent Third-Party ISO/IEC 17025 Mechanical Testing Facility.***EN14846:2008**

1. Category of Use	2. Durability	3. Door Mass and Closing Force	4. Suitability for use on fire/smoke doors	5. Safety	6. Corrosion Resistance	7. Security	8. Security - Electrical Function	9. Security - Electrical Manipulation
								
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Using an Independent Third-Party ISO/IEC 17025 Testing Facility / EU Notified Body.

* Classification 4 'Suitability for use on fire/smoke doors' applies only when the lock is used as a primary latching device for a fire/smoke door, where,

- **The lock shall not inhibit latching, other than by key controlled deadbolt** (i.e., must allow manual unlatching to ensure free egress during a fire, even without power).
- **The lock shall not depend on electrical energy to allow self-closing and latching** (i.e., a door closer will close and re-latch the door to ensure compartmentation, even without power).

As an electric deadbolt, this product is only suitable for use on a fire/smoke door when installed as an **auxiliary locking device** alongside a primary latching device. An auxiliary locking device shall behave as fail-safe, such that in the event of a fire, power should be removed, and the lock should disengage automatically. For regions that do not require a primary latching device, auxiliary locking devices must still behave as fail-safe when installed on fire/smoke doors.

This product has been tested to the following fire resistance standards.

EN1634-1:2014 + A1:2018

Suited for timber and mineral composite based doorsets rated for 30 or 60 minutes.

BS476-22:1987

Suited for timber and mineral composite based doorsets rated for 30 or 60 minutes.

Using an Independent Third-Party UKAS-accredited Fire Testing Facility.

3. Product Information

3.1 Product Description

The YD30D is a motor driven low voltage electric lock designed to secure commercial and residential swing-through (180°) doors. The lock has been designed to address the two biggest issues in concealed electric locking today;

1. The ability to 'pull' a door into alignment even if the door has not closed in a central position.
2. The ability to release when requested even if there is excessive load on the door.

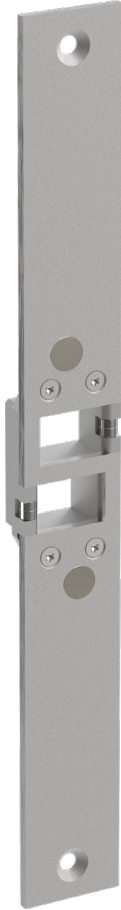
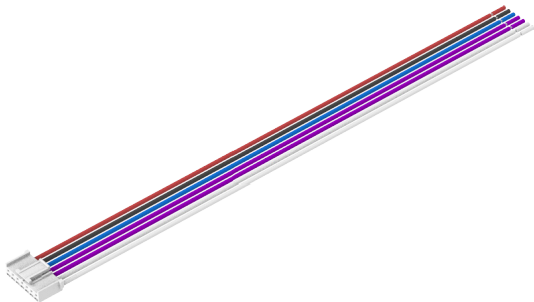
The design of the YD30D is unique as it has two motors which independently operate two bolt pins. The bolt pins operate on a cam action which enables each bolt pin to pull a door into place. In practice as the door closes it may come to rest in a position that is not fully closed. The YD30D senses when the door is within 8 mm ($\frac{5}{16}$ inch) of being fully closed in either direction and activates the bolt pin. This is an effective 16 mm ($\frac{1}{4}$ inch) alignment window. The bolt pin then rotates out and pulls the door from its resting position to the closed and secured position.

With the door secured and locked the YD30D can be given an unlock signal and it will instantly unlock. If the door is loaded (pre-load) when the unlock signal is given the YD30D will still unlock, even with loads in excess of 600 kg on the door from either side. Critically the ability of the YD30D to instantly release with excessive pre-load on the door even occurs in the event of a power failure if the lock is configured as fail safe.

Additional features of the YD30D are;

- Multi-voltage input (12 - 24 VDC)
- Very low current consumption
- Door position and bolt position monitors
- High physical strength
- Fail-safe / Fail-secure on-site conversion with the re-positioning of a single switch

3.2 Package Contents

1x Lock	1x Strike Plate
	
4x 10G self-tapping screws	1x 300mm 7-way wiring loom
	

3.3 Optional Accessories *(Available Separately)*

Description
YD30D Surface Mount Housing (with tape)
YD30D Dress Plate (with tape)
YD30 Fitting Tab Kit
YD30 7-way Wiring Loom - 300mm
YD30 7-way Wiring Loom - 5000mm

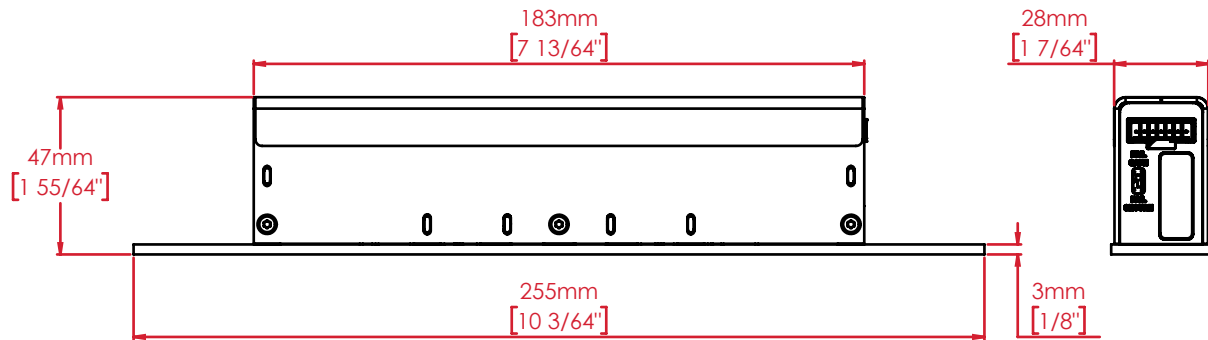
3.4 Technical Data

Materials		
Bolts	Stainless Steel 17-4PH	
Lock / Strike Plate	Stainless Steel 304	
Mechanical		
Bolt Extension	13 mm	
Door Gap	6 mm (¼ inch) max.	
Misalignment Correction	8 mm (⅝ inch) max.	
Cycle Life	1,000,000 cycles	
Holding Force	10,000 N (2,250 lbf) (factory tested only)	
Side Load Release	6,000 N (1,350 lbf) (factory tested only)	
Locking Time	1.0 seconds (typical)	
Unlocking Time	0.3 seconds (typical)	
Environmental		
Operating Temperature	-10 °C to +55 °C (14 °F to +131 °F)	
Ingress Protection	IP53 Rated	
Electrical		
Power Requirements	12-24 VDC ±15%	
	Initial Power Up Time	11 seconds
	Initial Current Draw	750mA@12VDC, 400mA@24VDC
	Standby Current	40mA@12VDC, 25mA@24VDC
Signal Contacts	Bolt Position (NO)	30 VDC max., 100 mA max.
	Door Position (NO)	
Compliance		
CE, UKCA, UL, FCC, ISED, RCM, RoHS		

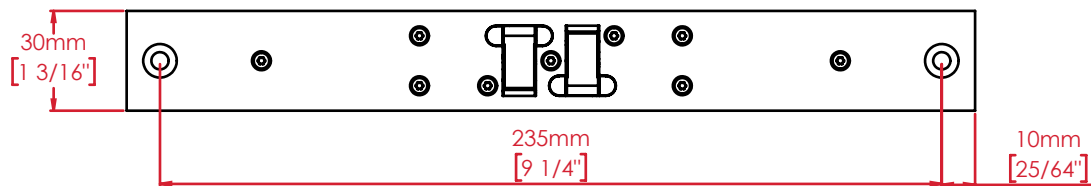
4. Product Dimensions

4.1 Lock Dimensions

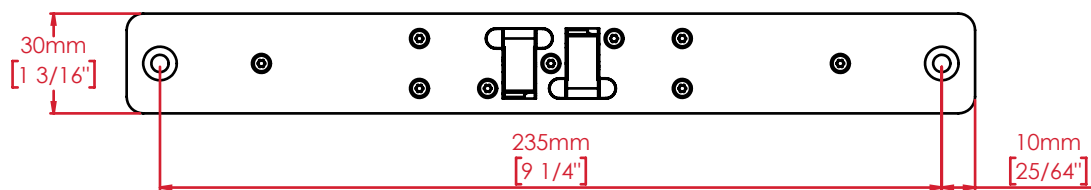
The dimensions shown are approximate and subject to change without prior notice.



with square corners

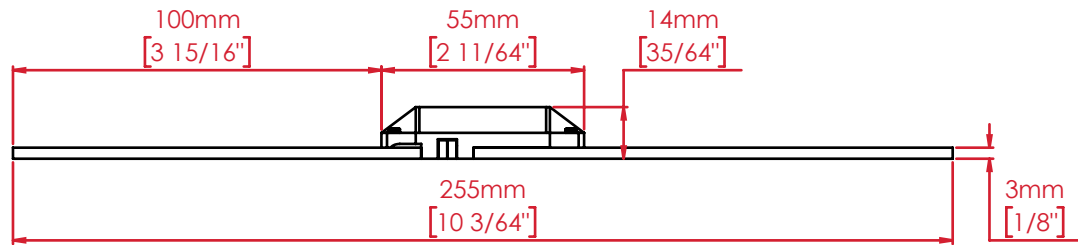


with rounded corners

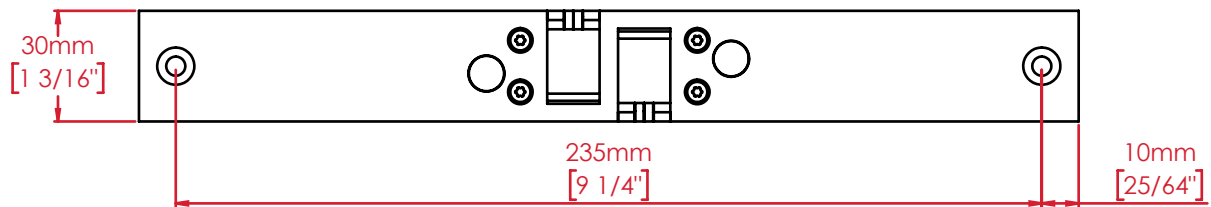


4.2 Strike Dimensions

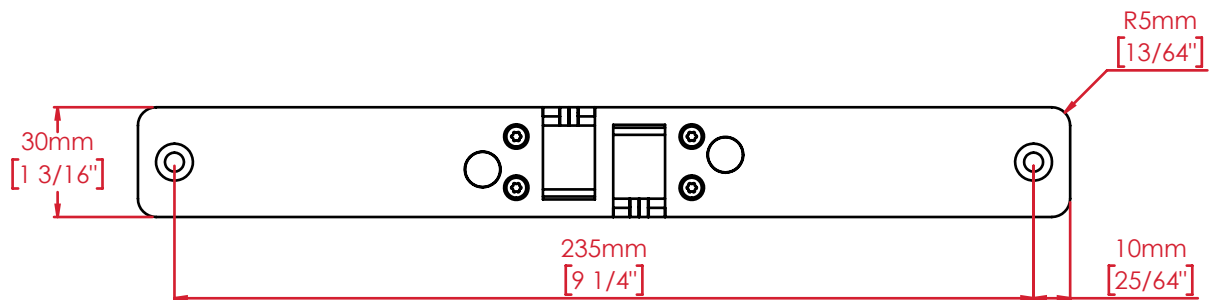
The dimensions shown are approximate and subject to change without prior notice.



with square corners

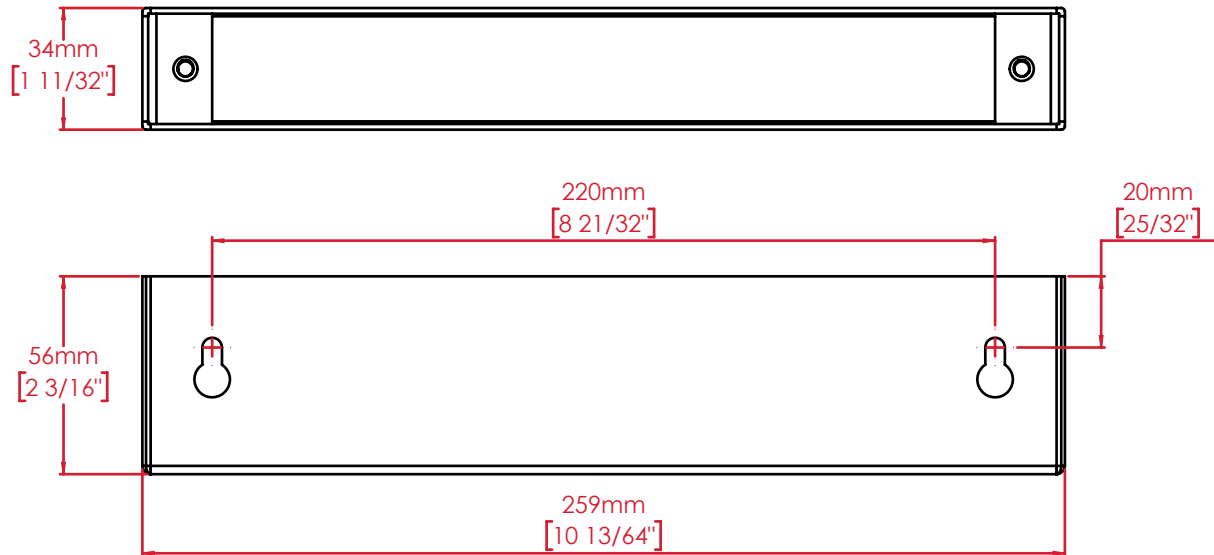


with rounded corners

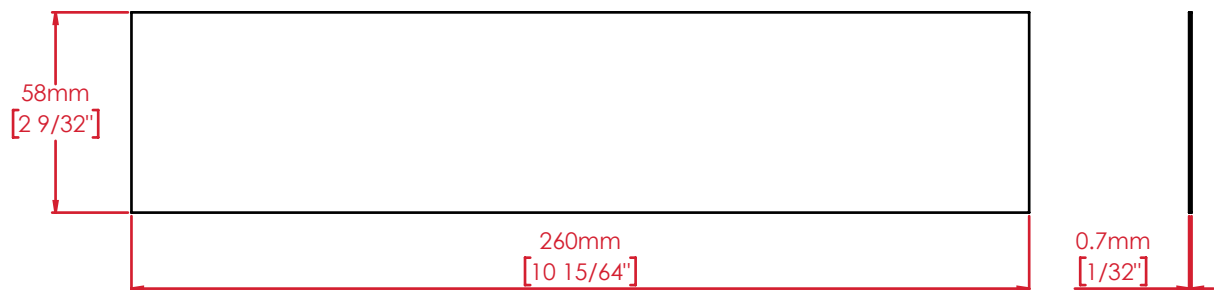


4.3 Housing Dimensions (*Available Separately*)

The dimensions shown are approximate and subject to change without prior notice.

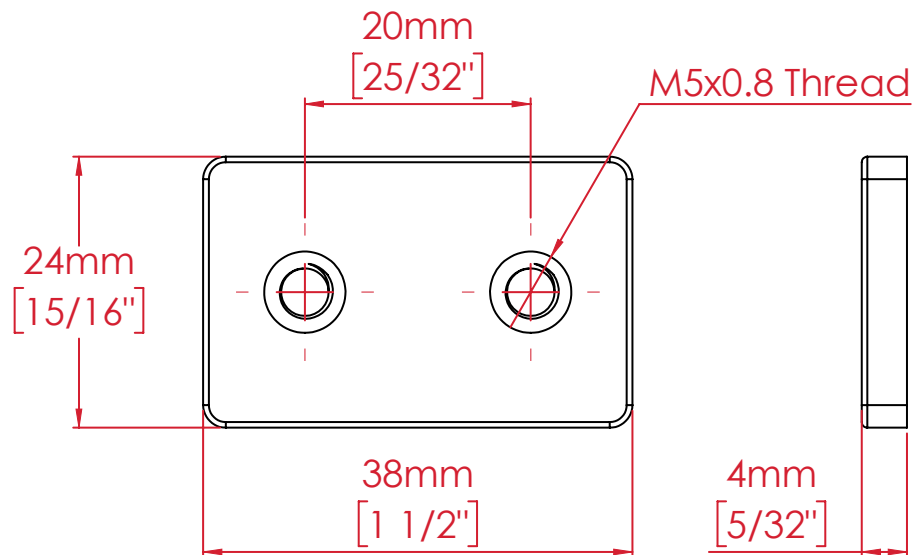


4.4 Dress Plate Dimensions (*Available Separately*)



4.5 Fitting Tab Dimensions (*Available Separately*)

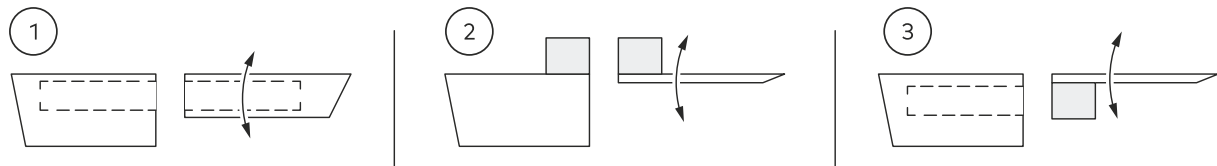
The dimensions shown are approximate and subject to change without prior notice.



5. Pre-Installation Assessment

5.1 Mounting Assessment

The first decision regarding installation is whether the YD30D will be morticed or surface mounted. Mortice installation ensures a discrete solution as the lock and strike plate can be embedded into the door leaf and frame, however in some instances this is not possible. Glass doors for example require surface mounting which is done with the aid of the YD30D housing and dress plate (available separately).



The lock and strike plate can be installed morticed (1), surface mounted (2), or a combination of the two (3). Regardless of the installation method it is vital that the lock face plate and strike plate are aligned vertically to each other and that the gap between them does not exceed 6 mm ($\frac{1}{4}$ inch) when the door is closed.

When the door is closed, the resting position of the door leaf can be misaligned up to 8 mm ($\frac{5}{16}$ inch) in either direction and the YD30D will pull the door into alignment with ease. This misalignment could be caused by an automatic door closer not aligning the door or natural distortions in the door assembly.

The YD30D can be installed vertically or horizontally but is not designed to be mounted in a floor cavity firing upwards or in a wet environment. *Must be installed vertically for UL10C applications.*

5.2 Wiring Assessment

Before installation begins, consideration must be made for where to run the wires and decide on what feedback is required from the lock. There are a total of seven available connections; three are compulsory power/control connections whilst the remaining four provide optional door and bolt position feedback. These optional connections can be integrated into access control or alarm systems to provide full monitoring.

The correct gauge of wire needs to be chosen as voltage drop across the power/control wires can limit the locks operation. For all the remaining connections, a lower gauge wire can be used as these are only signal wires. The following table shows the maximum distance that the wire runs can be between the power supply and the lock, assuming the power supply outputs 12 VDC or 24 VDC.

Conductor Cross Sectional Area		Maximum Distance	
#AWG	(mm ²)	at 12 VDC	at 24 VDC
24	0.20	10 m (33 ft)	30 m (98 ft)
22	0.33	16 m (52 ft)	48 m (157 ft)
20	0.52	26 m (85 ft)	77 m (253 ft)
18	0.82	41 m (135 ft)	122 m (400 ft)
16	1.31	65 m (213 ft)	195 m (640 ft)
14	2.08	103 m (338 ft)	310 m (1017 ft)

5.3 Operating Mode Assessment

The YD30D can be set to one of two operating modes before installation, Fail Safe or Fail Secure.

When the operating mode is set to Fail Safe, supply voltage is applied to the control input to lock the door, and the YD30D will unlock in the event of power loss.

When the operating mode is set to Fail Secure, supply voltage is applied to the control input to unlock the door, and the YD30D will lock or remain locked in the event of power loss.

The operating mode of the YD30D is factory set as Fail Safe by default. The operating mode can be changed to Fail Secure by repositioning the switch located at the end of the lock.

If the switch is repositioned while the lock is powered, the lock will need to be power cycled before the new operating mode will take effect.

6. Mounting

6.1 Mortise Installation (Solid Wood)

1. Cutting the mortice

Referring to the product dimension drawings, a mortice is cut into the door frame to fit the lock and a mortice is cut into the door leaf to fit the strike. Wooden doors and frames require full mortices with space made behind the lock body to accommodate the wire connections.

Be aware of what the final position of the hardware will be during this step. Ensure that when the door is closed, the lock and strike plate will be vertically and horizontally aligned, and the final gap between the lock face plate and strike plate will be no more than 6 mm (¼ inch).

2. Wiring the lock

A hole needs to be drilled in the back of the mortice to bring the wires out and a connection can be made to the supplied wire loom which in turn plugs into the lock.

Refer to the Wiring section of this document for detailed instructions on wiring.

3. Setting the operating mode

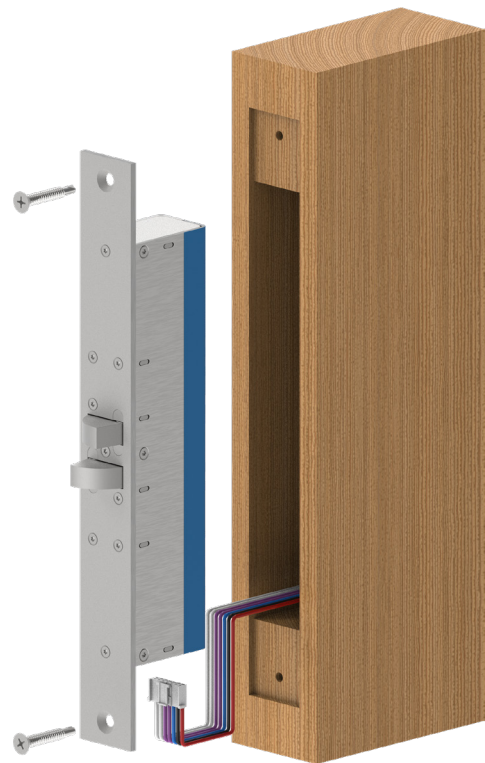
Ensure the operating mode switch is positioned to the required state, Fail Safe or Fail Secure.

Refer to the Operating Mode section of this document for detailed instructions on setting the operating mode.

4. Fitting the lock and strike plate

The lock can be slid back into the door frame mortice, ensuring that the wiring integrity is maintained, and then secured in place with the supplied 10G self-tapping screws.

The strike is then placed into the door leaf mortice and the remaining 10G self-tapping screws are used to secure it in place.



6.2 Mortice Installation (Metal Extrusion)

1. Cutting the mortice

Referring to the product dimension drawings, a mortice is cut into the door frame to fit the lock and a mortice is cut into the door leaf to fit the strike. Metal doors and frames, being hollow, often only require a single rectangle cut-out to accommodate the lock face plate or strike plate. For these installations lock and strike can be installed flush using fitting tabs (*available separately*).

Be aware of what the final position of the hardware will be during this step. Ensure that when the door is closed, the lock and strike plate will be vertically and horizontally aligned, and the final gap between the lock face plate and strike plate will be no more than 6 mm ($\frac{1}{4}$ inch).

2. Wiring the lock

Feed the wires out of the hollow chamber of the frame and a connection can be made to the supplied wire loom which in turn plugs into the lock.

Refer to the Wiring section of this document for detailed instructions on wiring.

3. Setting the operating mode

Ensure the operating mode switch is positioned to the required state, Fail Safe or Fail Secure.

Refer to the Operating Mode section of this document for detailed instructions on setting the operating mode.

4. Fitting the lock and strike plate

The lock can be placed into the door frame cutout, ensuring that the wiring integrity is maintained, and then secured in place with M5 machine screws (*included with fitting tabs*).

The strike is then placed into the door leaf cutout and then M5 machine screws (*included with fitting tabs*) are used to secure it in place.



6.3 Surface Mounting Installation (Solid Wood)

1. Preparing the mounting surface

Install two 10Gx1" self-tapping screws (*included with housing*) in the door frame surface to fit the lock, as per the product dimension drawings they should be 220 mm apart, 20 mm from the surface edge.

Be aware of what the final position of the hardware will be during this step. Ensure that when the door is closed, the lock and strike plate will be vertically and horizontally aligned, and the final gap between the lock face plate and strike plate will be no more than 6 mm ($\frac{1}{4}$ inch).

2. Preparing the housing

An 8 mm hole should be drilled through the lock housing wall at the position chosen by the installer for the wiring to enter. The wiring can be guided to the housing through surface mount conduit, or through a hole in the mounting surface material. Push a rubber grommet (*included with housing*) over the drilled hole to protect the wires from any sharp edges.

3. Fitting the housing

Position the keyhole cutouts of the housing over the screw heads and slide into position flush with the surface edge, and then tighten screws in place to secure the housing.

4. Wiring the lock

Feed the wires through the 8 mm hole in the housing and a connection can be made to the supplied wire loom which in turn plugs into the lock.

Refer to the Wiring section of this document for detailed instructions on wiring.

5. Setting the operating mode

Ensure the operating mode switch is positioned to the required state, Fail Safe or Fail Secure.

Refer to the Operating Mode section of this document for detailed instructions on setting the operating mode.

6. Fitting the lock and strike plate

The lock can be placed into the door frame housing, ensuring that the wiring integrity is maintained, and then secured in place with M5 machine screws (*included with housing*).

The strike is then placed into the door leaf housing and then M5 machine screws (*included with housing*) are used to secure it in place.



6.4 Surface Mounting Installation (Glass)

1. Preparing the housing for wiring

An 8 mm hole should be drilled through the lock housing wall at the position chosen by the installer for the wiring to enter. The wiring can be guided to the housing through surface mount conduit.

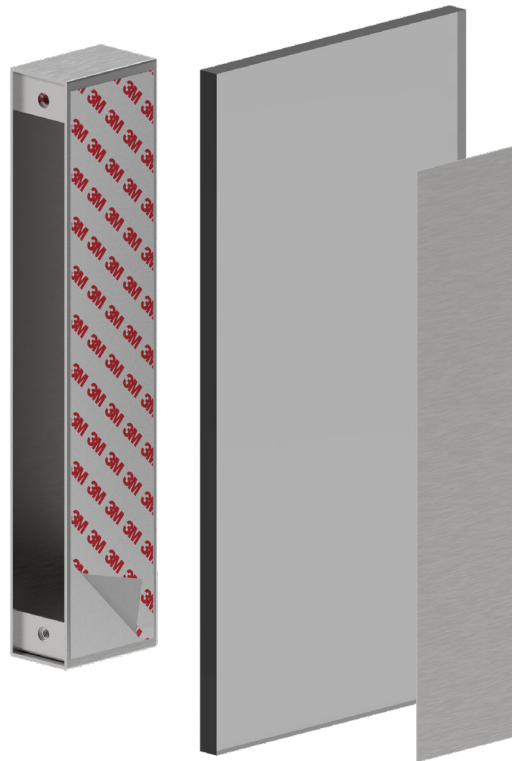
2. Fitting the housing

Clean the glass surface with isopropyl alcohol and peel the protective layer from the double sided tape of the housing. Position the housing flush with the edge of the glass, and apply 100kPa of pressure evenly across tape area to ensure full contact.

Leave the housing in place without disturbance to allow chemical bonding process to strengthen:

- 20 minutes for 50% of ultimate bond strength.
- 24 hours for 90% of ultimate bond strength.
- 72 hours for 100% of ultimate bond strength.

Be aware of what the final position of the hardware will be during this step. Ensure that when the door is closed, the lock and strike plate will be vertically and horizontally aligned, and the final gap between the lock face plate and strike plate will be no more than 6 mm ($\frac{1}{4}$ inch).



3. Fitting the dress plate

Clean the glass surface on the opposite side to the housing with isopropyl alcohol and peel the protective layer from the double sided tape of the dress plate. Position the dress plate flush with the edge of the glass and centered on the housing location, and press down evenly across tape area to adhere dress plate to surface.

4. Fitting the lock and strike plate

The lock can be placed into the door frame housing, ensuring that the wiring integrity is maintained, and then secured in place with M5 machine screws (*included with housing*).

The strike is then placed into the door leaf housing and then M5 machine screws (*included with housing*) are used to secure it in place.

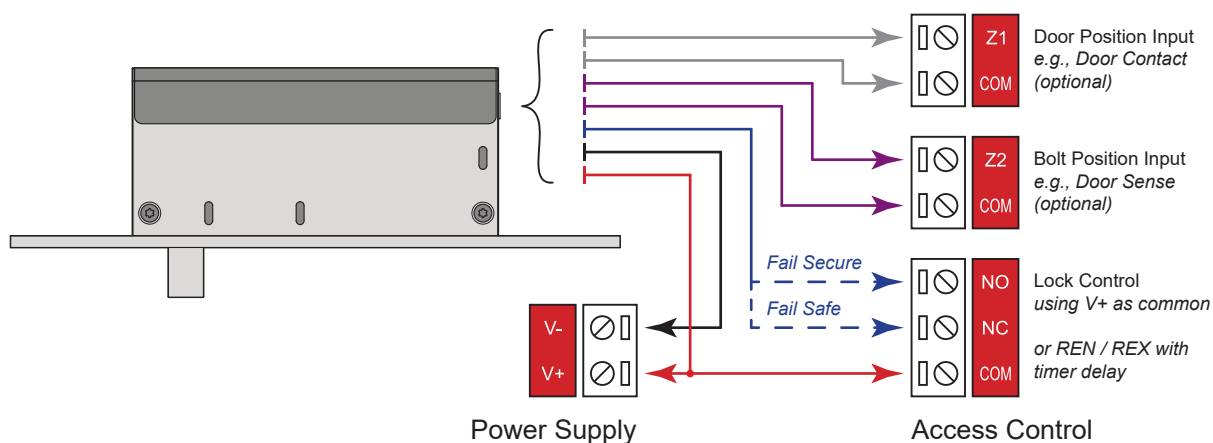


7. Wiring

7.1 Wiring Guide

The YD30D is supplied with a 7-way wiring loom that plugs directly into the lock. The wires are colour coded as per table below, with the power and control wires being essential connections and the four monitor connections being optional.

Wire Colour	Meaning	Description
RED	Power Supply (12 - 24VDC)	Positive connection to DC power supply, “+”
BLACK		Negative connection to DC power supply, “-”
BLUE	Control	Switched positive control input
VIOLET	Bolt Position Monitor	Normally open contact (NO), closed when the bolt pin is extended (<i>optional</i>)
VIOLET		
WHITE	Door Position Monitor	Normally open contact (NO), closed when the strike is aligned with the lock (<i>optional</i>)
WHITE		



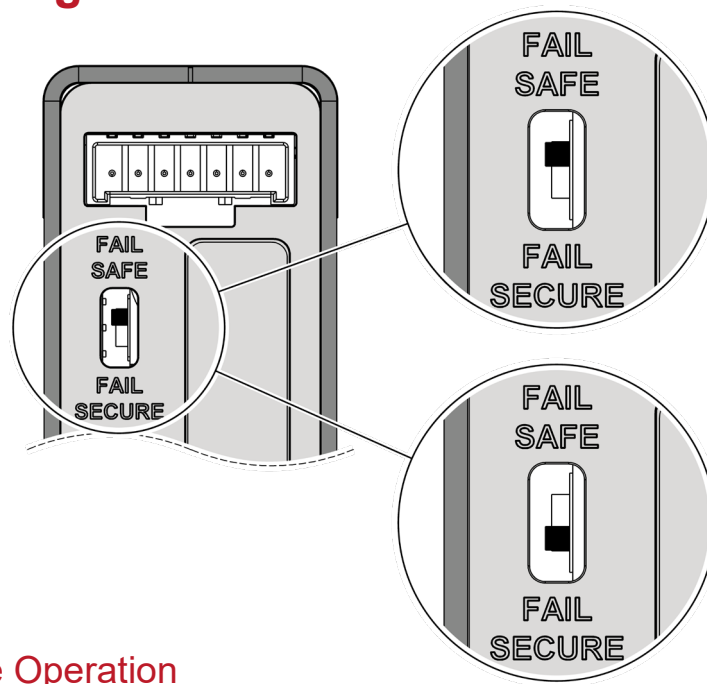
7.2 Fail Safe Connection

When in Fail Safe configuration, applying positive voltage to the control wire triggers the YD30D to lock (active-high locking signal). In the event of power loss, the YD30D will unlock.

7.3 Fail Secure Connection

When in Fail Secure configuration, applying positive voltage to the control wire triggers the YD30D to unlock (active-high unlocking signal). In the event of power loss, the YD30D will remain locked.

8. Operating Mode



8.1 Fail Safe Operation

Assume the lock is installed, wired, and set to fail safe. The door is open and the positive supply voltage is applied to the **BLUE** wire. As the door closes the YD30D senses the door approaching and activates the bolt pin to pull the door into alignment. The Bolt Position and Door Position monitors will have changed to closed contact state as the door is closed and secured.

To unlock the door, the voltage is removed from the **BLUE** wire. The YD30D will immediately release and will do so even when significant load is being applied to the door. With the door now open the Bolt Position and Door Position monitors change to open contact state. The YD30D will remain unlocked as long as the door is open but will instantly re-lock when voltage is applied to the **BLUE** wire and the door is closed.

In the event of a power failure, the YD30D will unlock.

8.2 Fail Secure Operation

Assume the lock is installed, wired, and set to fail secure. The door is open and the positive supply voltage is removed from the **BLUE** wire. As the door closes the YD30D senses the door approaching and activates the bolt pin to pull the door into alignment. The Bolt Position and Door Position monitors will have changed to closed contact state as the door is closed and secured.

To unlock the door, the voltage is applied to the **BLUE** wire. The YD30D will immediately release and will do so even when significant load is being applied to the door. With the door now open the Bolt Position and Door Position monitors change to open contact state. The YD30D will remain unlocked as long as the door is open but will instantly re-lock when voltage is removed from the **BLUE** wire and the door is closed.

In the event of a power failure, the YD30D will lock, or remain locked, if the door is closed.

9. Maintenance

9.1 Maintenance and Cleaning

The lock has been factory lubricated for life and is maintenance free. The use of other lubricants is not permitted and will void the warranty.

This lock contains electromechanical and electronic components that are subject to wear and tear depending on use and on-site installation conditions. The manufacturer has no influence on these factors. As a result of this wear, the lock may fail at the end of its normal service life.

Interval	Activity
As needed:	Using a dry cloth, polish the face plate and strike plate. Note: Look for traces of dirt and wear (dust, escaping lubricant).
Periodically, depending on frequency of use (to be determined by the operator):	Check for: • Tight fit • Smooth running • Noise during operation • Play of the latch • Contamination • Escaping lubricant • Moisture If there are unusual noises, noticeable play, escaping lubricant or similar; replace the lock.

9.2 End of Service Life

The capacitors of the lock are required to provide the fail safe and fail secure operation when power is lost. If a capacitor is compromised, it must be detected to ensure the failure operation can occur while the lock is still being supplied power as it will no longer occur after power is lost.

The lock undergoes daily health checks on the capacitors. If a capacitor is found to be compromised the failure operation will occur based on the position of the failure mode switch. Once this occurs, the lock will no longer operate.

In normal operation the red LED flashes at rate of 1 Hz (1 per second), whereas in the event of power failure the red LED will flash at a rate of 8 Hz (8 per second) while performing the failure operation. In the event a failed capacitor is detected, the red LED will flash at a rate of 32 Hz (32 per second), which signifies end of service life.