

FLAME SHUTTER

INSTALLATION INSTRUCTIONS

FEB 2018

Version 4



SeceuroFire

Flame Shutter

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INSTALLATION INSTRUCTIONS

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2 Key to Symbols/ Meanings:



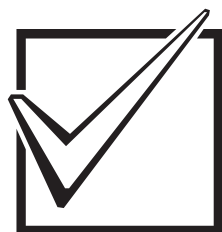
WARNING! **Risk of personal injury!**

This is an important piece of safety advice which must be observed to avoid a risk of personal injury!



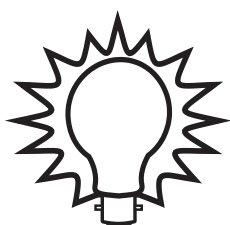
ATTENTION **Risk of material damage!**

This is an important piece of safety advice to avoid damaging the product you are installing!

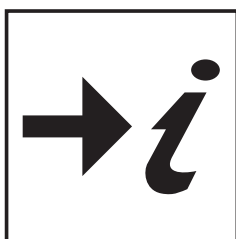


Operational check:

At this stage of the installation a component of the door, the operation of the door or the operator can be tested. This is very important as it can immediately identify an error which could take time to discover at a later stage.



Advice / Tip



Reference to further product information

Here a reference is made to another set of instructions which need to be used for installation of a particular component.

3 Warranty / Life Cycles

The warranty for this product is only granted if:

- **The installation is carried out by a competent installation engineer following these instructions.**
- **Only original parts are used.**
- **No additional objects are attached to the door.**
- **Regular maintenance checks are performed.**

For further details on the products warranties please refer to the products price list and our terms and conditions which are available upon request.

4 General Safety Advice

4.1 General Information



This document is intended for a qualified, trained installation engineer and should not be given to the owner of the door but should be kept by the installer.

Please read all safety advice and relevant instructions carefully.

These installation instructions are intended for qualified and trained installation engineers.

Installation, initial operation, servicing, repairs and dismantling of this product should only be carried out by a qualified and trained installation engineer.

When installing an electrically operated product ensure the mains power supply to the product is disconnected before any electrical connections are attempted.

Before operating a shutter you must always ensure that there are no persons or objects in the opening before and during the opening.

Upon completion of the installation the owner of the shutter must be trained how to operate the product safely paying special attention to the following points:

- **The end user must read and follow the advice given in the operating and maintenance instructions.**
- **In the event of a malfunction the end user should follow the advice given in the operating and maintenance instructions and if applicable contact the installer.**

During the installation of the shutter you should follow safe working practices. Further advice is available from the Health and Safety Executive (HSE).

4.2 Repairing/ Dismantling / Maintenance

Always isolate the mains power before attempting any maintenance, repairs or dismantling. If you need to use the optional remote control during any maintenance, repairs or dismantling procedure you must engage the commissioning mode.

Before attempting to repair or dismantle a shutter you should check for the presence of any safety devices, for example:

- **Anti-drop brake**

When repairing or dismantling a shutter you should keep the opening and the surrounding area clear to prevent risk of injury to yourself and others.

When repairing or dismantling a shutter you should follow safe working practices. Further advice is available from the Health and Safety Executive (HSE).

Maintenance check list:

- **Curtain free running and clean**
- **All end locks are correctly and securely located in the curtain**
- **No debris in the guide rails**
- **Guide rails and end plates are securely fastened to the wall (check also the fascia if fitted)**
- **If applicable motor cable is correctly retained, has not been damaged or in danger of being damaged**
- **Check the operation of the manual override.**

Maintenance

There is a requirement under The Regulatory Reform (Fire Safety) Order 2005 for the buildings responsible person to ensure all fire safety equipment is maintained.

The period between checks is at the discretion of the customer however we recommend the following:

Weekly	Check all the system for correct operation. Test operation of systems and self contained detectors
3 – 6 months	Inspection and test of the system by a competent engineer.
Annually	Full inspection and test of the system by a competent engineer, clean self contained detectors. Replace the two 12v lead acid batteries in the control panel*.

Always isolate the mains power before attempting any maintenance or repairs.

When repairing or maintaining a fire shutter you should keep the opening and the surrounding area clear to prevent risk of injury to yourself and others.

Maintenance check list:

- Shutter free running, clean and no sign of damage
- No debris in the guide rails or across the opening
- Guide rails and box are securely fastened in place
- The motor cable is correctly retained, has not been damaged or in danger of being damaged
- *The control panel incorporates two 12v lead acid batteries which are maintenance free. However it is recommended that the battery condition is monitored on a regular basis and that they are exchanged as necessary and at least every 12 months.

5 Tools/ Fixings Required

This list of tools and fixings is a minimum guide, to be adapted for each installation.

- Drill with pneumatic/hammer action to take the drill bits used below
- 10mm & 5mm masonry bits up to 400mm long (or wall thickness)
- 3, 4.2, 5, 10 & 13mm metal drill bits
- Guide rails and end plates required at least 10 x 75mm fisher FSA sleeve anchor
- To secure the shutter box to the wall use at least self cutting flange head screws 6 x 75
- To secure the shutter box to the end plates use 5.5mm x 19mm hex head self drilling screws (Tec Screws) or 4.8 x 16 steel rivets
- 250mm long masonry drill bit
- Screw drivers and wire strippers
- 4mm & 5mm Allen key
- Pliers
- Metal files - round, half round and flat
- Spirit level
- Straight edge (square)
- Plastic hammer
- Tape measure
- Marker pen
- 3 core cable
- Junction box
- 10 amp plug
- Surface trunking
- Hacksaw
- Pop riveter
- Dust sheets
- Step ladders
- Workmate bench (optional)
- Silicone gun with fire rated sealant (shown by test to be suitable for the fire resistance period required)
- Cable grommet

6 Preparation for the Installation

Flame shutter installation criteria

Basic assumptions

Shutter position

It is assumed that the shutters are in the completely closed position once activated.

Floor support

It is assumed that the floor or surface that the curtain closes onto will be able to support the curtain weight in the event of a fire.

In what orientations can the product be installed?

Face fix, soffit fix and reveal fix

The Flame Shutter can be fixed to the soffit of the supporting construction, within the reveal of the opening instead or face fixed to either face of the wall.

For reveal fixing, the shutter is confined within the constraints of the aperture. It is acceptable to fix shutters in this manner subject to the provision of the correct allowance for expansion for the supporting components. In particular and in the situation where the endplates are fixed to the inside of the wall, the barrel and axle assemblies must be allowed to expand unrestricted. In these situations the guides may be exposed or recessed within the structure.

Recessed guide rails

Where it is required for the guides to be fitted within the concrete/masonry structure it is not necessary to provide an allowance for expansion of the guides on the understanding that the guides are fully fixed and grouted with cement mortar.

Orientation

The appraisal for the Flame Shutter is based on the details recorded during a fire resistance test where the rolling shutter was exposed on the side likely to provide the least period of fire resistance. The appraisal therefore is appropriate to exposure from either side.

What can the fire shutter be fastened to?

Supporting construction

It is assumed that the Flame Shutter will be fixed to appropriate masonry/concrete constructions that have a fire resistance of at least that specified for the Flame Shutter and are capable of supporting the weight of the Flame Shutter for the required period.

Alternatively it is assumed that the Flame Shutter will be fixed to appropriate structural steel members that are clad with a proprietary fire protection system such that they have a fire resistance of at least that specified for the doorset and are capable of providing adequate support to the Flame Shutter for the required period.

The products assessment report does not cover installation of this product to timber due to the uncertainties about the strength of the timber and how well the timber is protected from the fire.

Steel supporting structure

The fixing of the doorset components to the steel members must not reduce the ability of the fire cladding system to protect the members. Fixings through protection systems such as boards and fibrous sprays should be fitted with steel sleeve spacers such that they do not compress or crush the protection. Where the structural steel members are protected with an intumescent coating additional fire protection must be added around the connecting shutter components to compensate for the area of coating that is trapped between the steel members and the shutter components and therefore cannot intumesce. Any gaps between the fire

cladding system and the shutter components must be fitted with a fire rated seal system that has been shown by test to be suitable for the application and the fire resistance period required. The structural steel members may be contained within a partition system but must still be clad with a proprietary fire protection system.

The vertical structural steel members providing the support at the sides of the shutter must be continuous and secured to the structural floors slabs above and below the doorset. The horizontal steel member over the opening must be connected to the vertical structural steel members and must be deep enough to accept the fixings for the doorset. Alternatively, more than one horizontal steel member may be fitted.

Fixings that must be used

Fixings

To cover all conditions of the wall steel expansion bolt fixings are assumed to engage within the concrete or masonry structure for a depth of at least 100mm.

If the masonry of concrete of the wall is in a good condition then an engagement in the wall of at least 60mm is usually adequate for fire ratings up to 2 hours and 75mm for 4 hours.

Grade of bolts

The calculations referred to in this report are based on normal Grade 4.6 steel.

Product performance

The appraisal of the Flame Shutter is only valid provided that no other modifications are made to the tested construction other than those described in the product assessment report and that it is installed as per the criteria mentioned above.

6.1 Preparation for the Installation

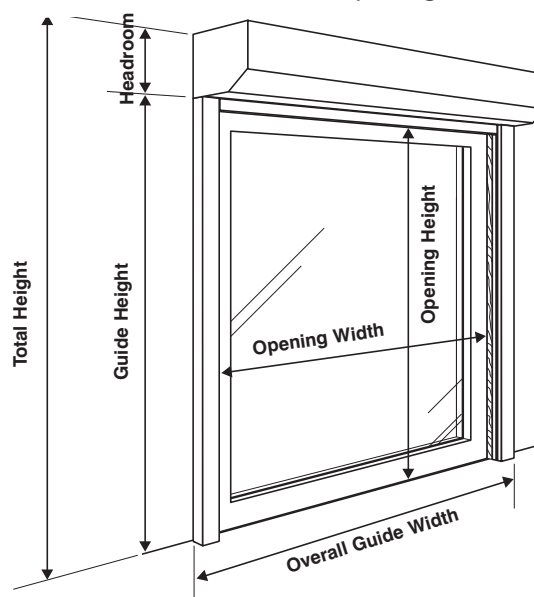
The structure of the opening must be adequate to take the weight of the door and suitable to take the appropriate fixings.



RISK OF MATERIAL DAMAGE Check that the opening is ready for installation. Surfaces should be flat and vertical to guarantee a parallel alignment of the guide rails. It is important that you check that the lintel does not bow inwards or have any projections that may catch on the curtain or could push the box back towards the curtain. If in doubt pack the guides and box out by at least 10mm.

Before you begin installing the shutter you should check that the shutter will not foul on any opening doors or windows or projecting door handles.

RISK OF MATERIAL DAMAGE Check the dimensions of the opening to ensure that the product



supplied is the correct size to suit the opening. This must be done before removing any existing products and before you begin installation of the shutter.

To avoid damages to the box and the curtain unpack the components very carefully. We recommend using the packaging supplied as a protective mat.

Check the packages you have received to ensure you have received all the parts you require and they are in a satisfactory condition before you begin installation of the shutter.

7 Flame Shutter

Parts List

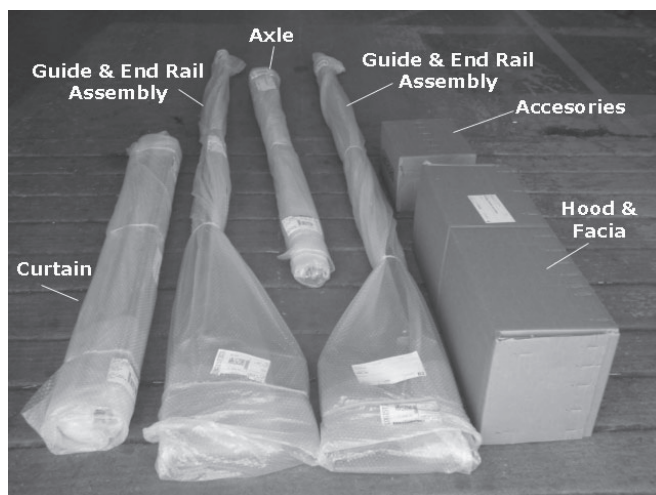
General Parts

- Assembled axle assembly (1 per shutter)
- Pair of flag assemblies (angle, guides, and endplates)
- Assembled curtain (depending on the shutter size may be supplied in sections)
- Steel hood + Facia In Sections
- Installation Instructions
- Operating and maintenance instructions
- Accessories

Electric control method (depends on method requested):

- Switch (with back box surface/flush)
- Key switch
- Battery back up

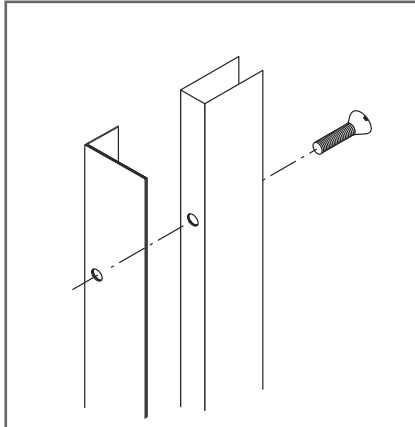
Accessories are packed in a separate box.



Override Handle



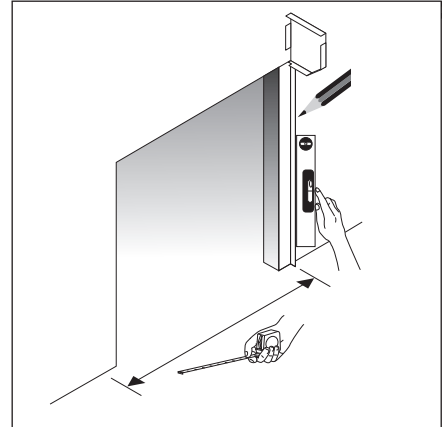
7.1 Flame Shutter Installation Instructions



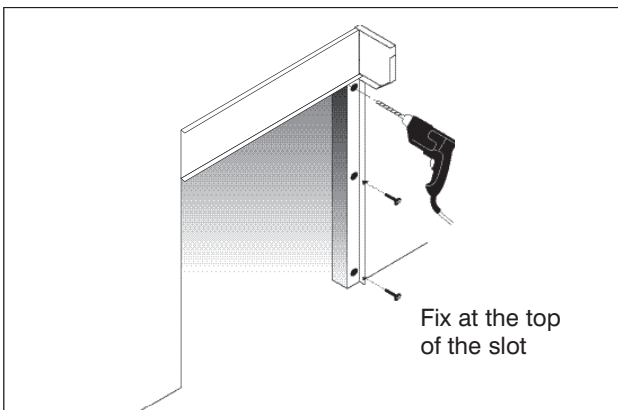
1 The channels are supplied with the angles attached these must be removed.



2 Determine where the cable needs to exit the end plate then drill a 13mm hole and insert a cable grommet in to the hole to protect the motor cable.

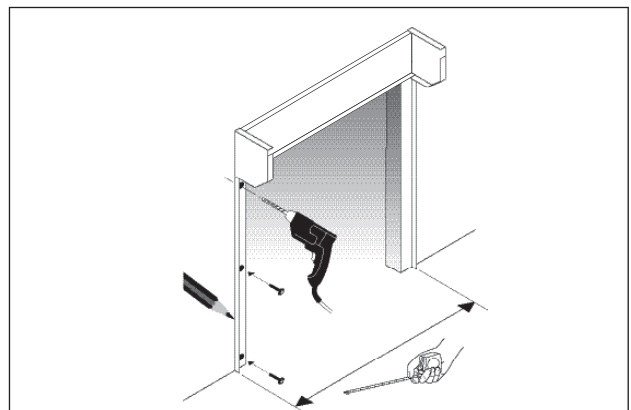


3 Measure the opening to determine the location of the first length of angle. If the motor end of the shutter is fitting within the reveal and you have been supplied with a 50 x 50mm steel box section this should be fitted into the opening now so the guide angle can be fastened to it

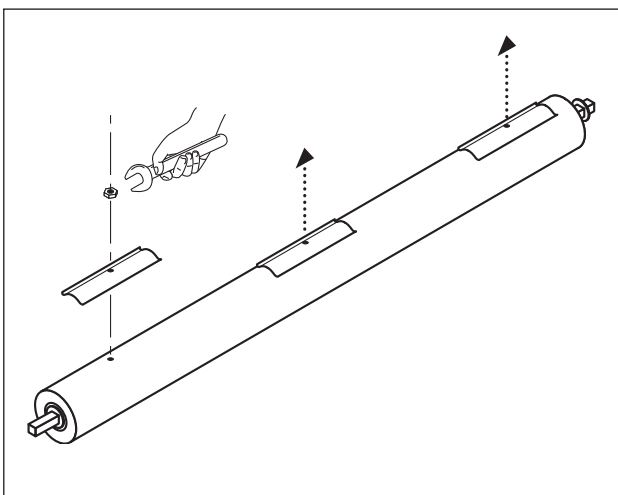


Fix at the top of the slot

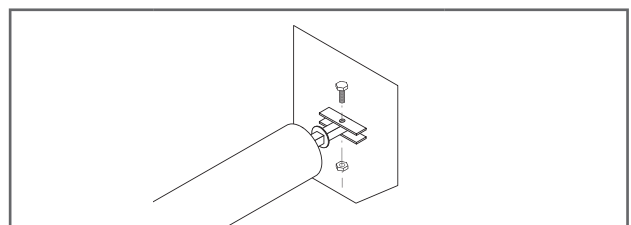
4 Offer angle up and fix to wall ensuring vertical (use all fixing slots provided) Loosely fix the angle to the wall to enable the fascia to be inserted behind the angle. Position the fascia, it will be held in place by the second angle fitted in the next step.




5 Measure from the first angle to determine the position of the second angle ensuring that the angles are vertical and also that the tops of the end plates are level. Fix the angle to the wall.



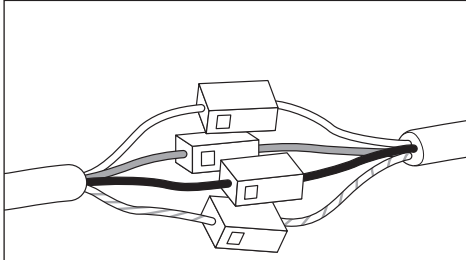
6 Remove the attachment strips from the axle.



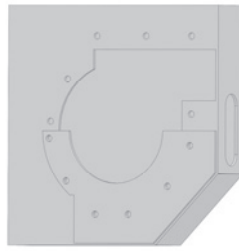
7 Attach the axle to the end plates using the fixings provided. You must ensure that the bolts located along the length of the axle for curtain attachment will be available for step 11.

 **Tip:** Slide the dummy end of the axle over the end bracket first, using to notch out in the axle. Rotate the axle so that so that the bolt can be inserted through the bracket and into the dummy end shaft. Rotate the axle again to enable the motor plate to be located on the end plate studs.

7.1 Flame Shutter Installation Instructions (cont.)



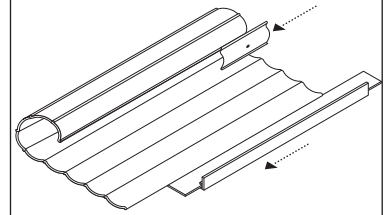
8 It is recommended that you use a test lead to set the motor limits. Power the axle so that it rotates to the fully closed position. If you connect the curtain when it is in this position the bottom limit will already be adjusted so you will only have to adjust the top limit at a later stage.



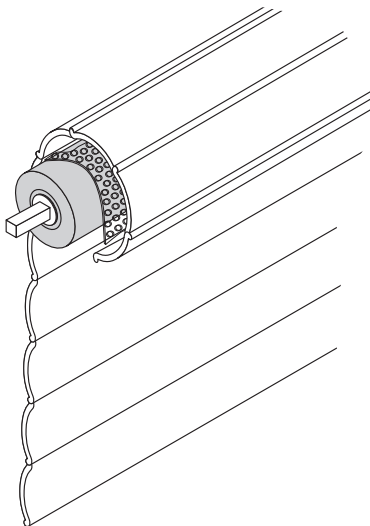
9 Fasten the motor cover plates in place.



TIP - Fasten them loosely to start with to enable them to be aligned



10 Slide the attachment strips on to the curtain.



13 Large curtains will be supplied in two or more sections to enable them to be transported. There are two alternative methods for assembling the curtain:

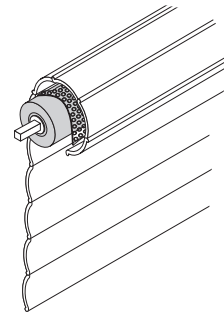
Method 1

(If limited room, may require mechanical lifting assistance)

Slide the sections of curtain together before attaching the curtain to the axle.

Method 2

Attach the top section of the curtain to the axle then rotate the axle in the up direction to roll the curtain around the axle. Then attach the next section of the curtain to the bottom of the first section. Rivet end locks in place. Repeat this process if applicable.

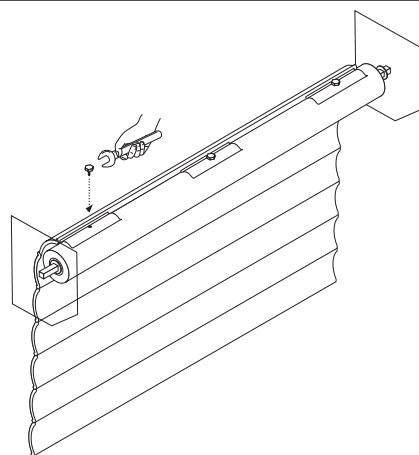


RISK OF MATERIAL DAMAGE!

12 Cover the axle with bubble wrap or a similar material to prevent the curtain from being damaged during the curtain loading process. Carefully load the curtain over the axle.



TIP - Place blocks on the floor under the bottom slat to raise the curtain of the ground. This will aid you to attach the curtain to the axle in the next step.



14 Attach the curtain to the axle using the attachment strips provided.

The Roller Shutter Door is manufactured with the curtain height to suit the length of guide supplied. The door will not lock down properly if the curtain is either too tall or too short. If the guide height has been adjusted on site, check that the top of the curtain is neither below the top of the guide nor more than one slat above (see *drawing A & B below*). Both limits require setting along with a final adjustment of the locking springs.

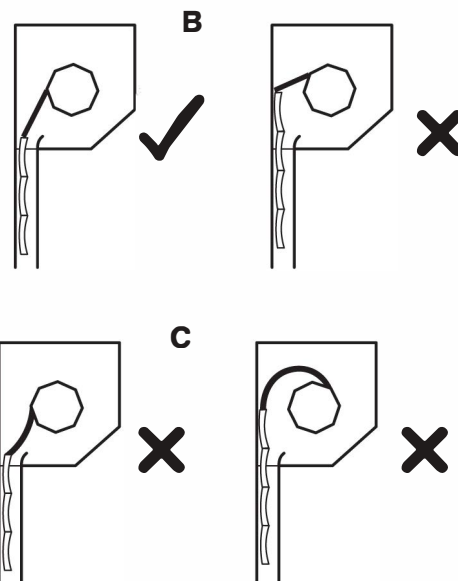
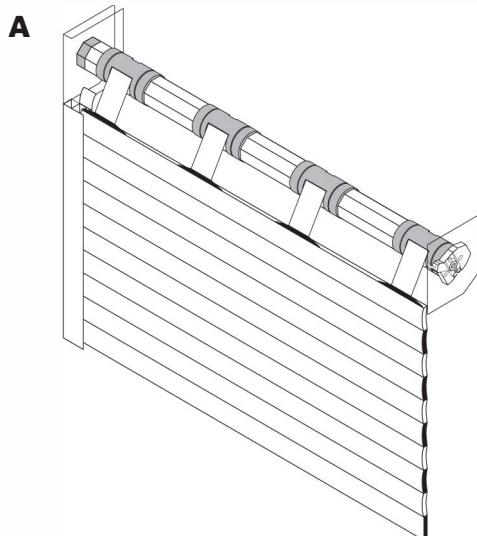
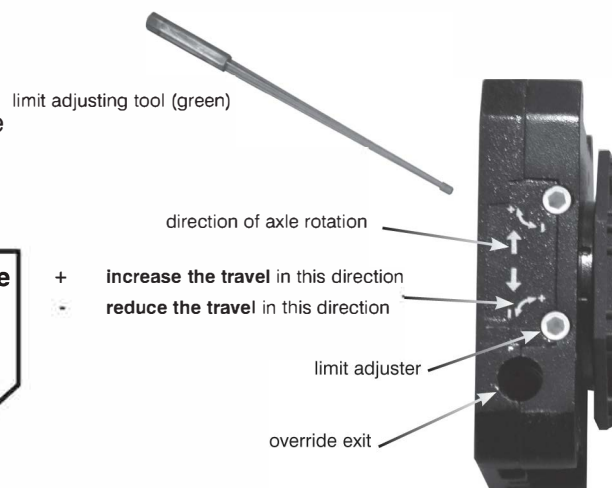
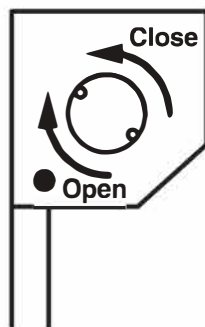
N.B: Incorrect setting of the limits risks damage to the motor, curtain and attachment devices.

WHICH LIMIT IS UP AND WHICH LIMIT IS DOWN?

The up and down limit is determined using the direction arrows next to the limit adjusters and the direction of axle rotation to either close or open the door.

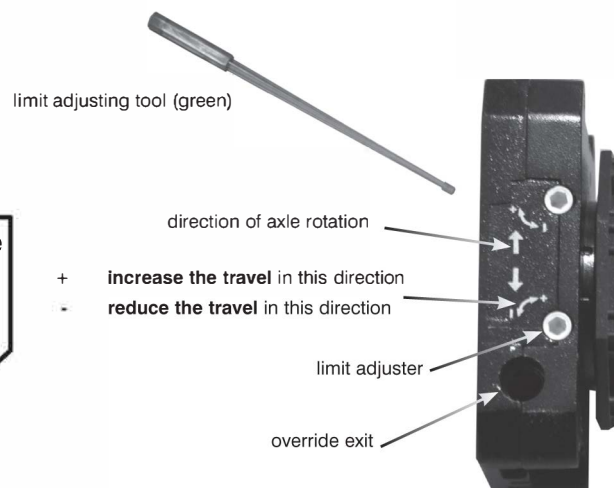
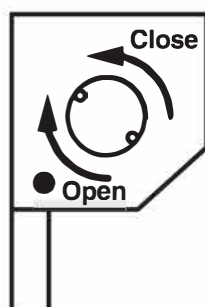
CLOSED / DOWN LIMIT SETTING AND LOCKING SPRING ADJUSTMENT

- Carefully close the door using either a motor test lead or the remote control unit so that the curtain is fully down and the top slat is pushed forward. The metal attachment springs should be taut but not bent or distorted (see *drawings A, B & C*).
- Turn the down limit in the '+' direction to **increase** the **travel** of the door.
Turn the down limit in the '-' direction to **reduce** the **travel** of the door.

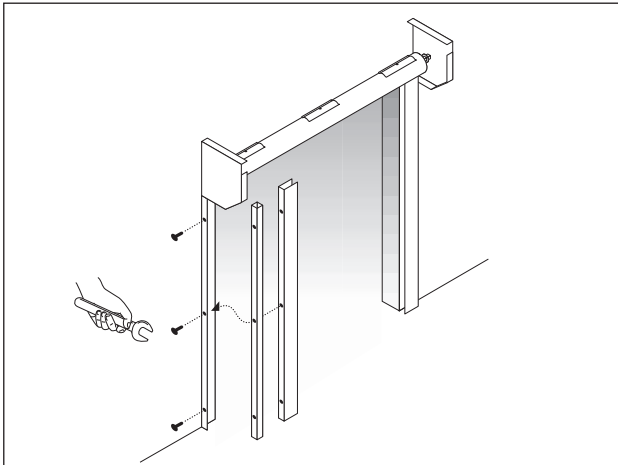


OPEN / UP LIMIT SETTING

- Carefully open the door using either a motor test lead or the remote control unit so that the curtain is fully open.
- Turn the up limit in the '+' direction to **increase** the **travel** of the door.
Turn the up limit in the '-' direction to **reduce** the **travel** of the door.



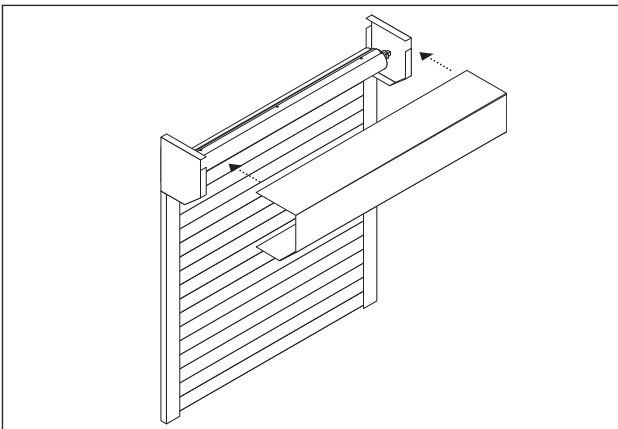
7.1 Flame Shutter Installation Instructions (cont.)



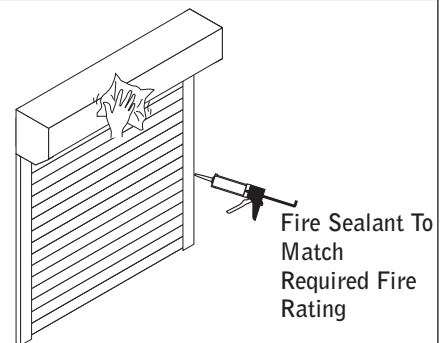
15 Attach the channels and the box section to the angles if applicable.



16 If applicable attach the override handle to the shutter and test the manual override facility. Once you have identified which direction will open the shutter attach the label supplied to the override handle showing the end user which direction to wind the manual override to operate the shutter.



17 Use steel Tec screws or 4.8 x 16 rivets (not supplied) and at the non-drive end only. Insert M6 x 23mm nylon washers (supplied) between the fixing and the hood to allow hood movement in the event of a fire.



Fire Sealant To Match Required Fire Rating

18 Test the operation of the shutter to ensure that the shutter moves freely up and down in the guide rails and that the shutter stops at its preset fully open and fully closed limits. To complete the installation you should mastic around the edges of the shutter then give the shutter a final clean and tidy.

Upon completion of the installation the owner of the shutter must be trained how to operate the product safely paying special attention to the following points:

- The operator should ensure there are no objects or persons in the opening before and during operation.
- The end user must read and follow the advice given in the operating and maintenance instructions.
- In the event of a malfunction the end user should follow the advice given in the operating and maintenance instructions and if applicable contact the installer.

**CONTROL
STATION
LTD**

ProMate



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General Information

The ProMate complies with the essential requirements and provisions of directives 2006/42/EC, 2006/95/EC. A declaration of incorporation is available from Control Station Ltd. When installed in accordance with this guide, ProMate complies with EN 13241-1 and EN 12453 Standards.

Safety

This unit is designed for use with single phase tubular motors used on rolling door and window shutter applications, for other applications please contact our technical department.

The ProMate must be installed and used in accordance with these instructions, installation and wiring must be in accordance with current building and electrical wiring regulations. Failure to follow these instructions could result in damage to the ProMate control unit and or non-compliance to the current standards. Do not wear jewellery or loose clothing while carrying out installation or service work.

This unit should not be installed externally or in a damp or wet area, connect the mains lead to an adjacent plug socket or fused spur unit fitted with a 10 Amp fuse. If in doubt consult a qualified Electrician.

Install the key switch in a position where the whole of the shutter area is visible and the operator is not at risk of entrapment or injury.

Operate the shutter only when it is in full view and free from obstruction, no one should enter the area around the shutter while it is in motion.

Product Overview

Pro-Mate is an essential solution for fitters installing single-phase rolling shutters controlled via a key switch. Ideal applications include door and window shutters for commercial shop fronts and public buildings where Dead-Man (also known as Hold to Run) is used for closing.

Dedicated features ensure safety is maintained during the life cycle of the shutter, installation, maintenance, normal running, service and repair. Every aspect of the product has been carefully considered, it has ample room for cables, quick fit push-in and screw clamp cable restraints and clearly marked colour coded terminals to reduce installation time. There is also a facility to allow the motor direction to be swapped without the need for reconnecting cables. The default setting for Pro-Mate is Dead-Man Open and Close but Push to Run Open can be selected via DIP switch if the shutter does not contravene the requirements in EN12453 for Push to Run Open. There is also the facility to disable the external switch inputs so that a fitter can carry out routine maintenance in safety without first having to collect all the keys in or disconnect any other devices from the control unit. There are lid mounted switches to help with commissioning and allow local control as well as designated LED's to give clear status information.

Points to Check Prior to Installation

Check that the ProMate is suitable for the application it is to be used on.

If the shutter is the only entry point into the premises then we recommend one of our Battery Backup Up units is fitted to allow safe convenient operation in the event of a power failure.

Unpack the control unit and other equipment, check that all parts are present.

Ensure that all necessary tools are at hand prior to starting the installation.

Installation

The upper half of the lid with the LED's and push buttons should never be removed. Doing so will invalidate the warranty.

The unit is normally mounted on the same side of the shutter as the motor although this is not essential; the main priority is to mount it in a safe and accessible location for installation, operation and maintenance.

1. First remove the lower half of the lid to expose the two lower fixing points. The top central fixing is a keyhole type slot which the unit hangs on and is not accessible from inside the enclosure.
2. Hold the unit against the wall in the required location and mark the centre top position, there is a small indent in the top cover to help with this. The keyhole slot is 8mm below this point so if the height is critical allow for this when marking.
3. Hang the unit on the top fixing and then mark the location for the two lower holes, remove the unit from the wall prior to drilling these to avoid damage or dust ingress. Fix the unit firmly to the wall.

Wiring the Control Unit

Always disconnect the mains supply before making any connections.

If the motor limits are to be set using a test lead then this should be done prior to connecting the motor wires to the ProMate.

The ProMate can now be wired; details of the terminals are listed on the opposite page with a full wiring diagram on page 14. We recommend the connections are made in the following order:

1. Connect the key switch wires to terminals T10, 11 & 12
2. Apply power to the ProMate and check that the switch is wired correctly, when the Open command is given the Open command LED on the lid should illuminate,

likewise for the Close command. If this is not the case swap the wires in T11 & T12 then re-check, once this is correct switch OFF the power.

3. Connect the motor to T1, 2, 3 & 4. (For 5 wire motors T5 is a permanent live.)

4. Connect the safety brake to T15 & T16

Then proceed to page 6 to commission the system

⊗	T1	Motor Open (Factory Set see note 3)	Black (LH Motor)
⊗	T2	Motor Close (Factory Set see note 3)	Brown (LH Motor)
⊗	T3	Motor Earth	Green/Yellow
⊗	T4	Motor Neutral	Blue

⊗	T5	Motor Permanent Live (see note 2)	For 5 wire motors only
⊗	T6	Not Used	

Mains
Voltage

⊗	T7	Mains Neutral	An IEC plug may be fitted in place of these terminals (see note 1)	Blue
⊗	T8	Mains Earth		Green/Yellow
⊗	T9	Mains Live		Brown

Separated
Extra
Low
Voltage

⊗	T10	Key Switch Common	Low voltage alarm type cable can be used for switch wiring
⊗	T11	Key Switch Close	
⊗	T12	Key Switch Open	

T13	Stop Switch Common	Link if not used
T14	Stop Switch Input (N/C contacts)	
T15	Safety Brake Common	Link if not used
T16	Safety Brake Input	

Note 1: Depending on the model, mains connection may be through an IEC lead, the unit should be connected to an adjacent plug socket or fused spur unit fitted with a 10Amp fuse.

Note 2: This output is fed directly from T9 or the IEC plug live pin and is not protected by the fuse on the circuit board, it should only be used for motors that require a permanent live supply. See page 8 Motor Type for further information.

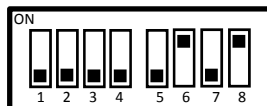
Note 3: Motor direction outputs can be reversed to allow for motor wiring, the direction shown is with DIP 7 OFF and 8 ON (Factory set mode). See page 6 Motor Direction Reversal for further information.

Commissioning

Once all the wires have been connected the system can be tested, the DIP switches should be in the factory set position as shown below unless you need Motor Monitoring to be activated in which case DIP 4 needs setting to ON (see page 8 Motor Type for further information).

Factory Settings: DIP 6 and 8 ON

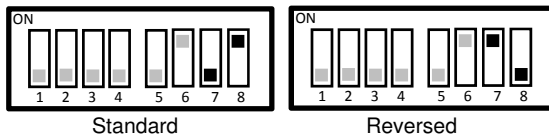
DIP 1,2,3,4,5 and 7 OFF



Apply power to the unit, the lid mounted LED's will show the status of the control system, details on page 12.

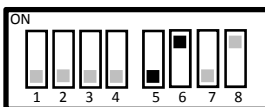
If it is safe to move the shutter press and hold one of the direction buttons on the lid and check that the motor direction is correct, if the shutter cannot be seen from the control unit then carryout this test from the key switch. If the direction is incorrect then see below for reversing the direction via DIP switch. The buttons on the lid always function in 'Dead-Man' mode.

Motor Direction Reversal



The Direction of the motor is set by DIP 7 and 8 (factory set to DIP 7 OFF, DIP 8 ON). This makes terminal T1 the OPEN output and T2 the CLOSE. If the motor runs in the opposite direction to that required then DIP 7 should be turned ON and DIP 8 OFF, this will swap the two outputs over, removing the need to swap the wires at the terminals. The motor direction can then be retested. If both of these switches are set to ON or both set to OFF, then the motor will not operate.

Set the Motor Limits



Dead-Man

These can be set either from a test lead prior to connection or through the ProMate, if the ProMate is used then it must be in 'Dead-Man' OPEN mode (as factory set, DIP 5 OFF

DIP 6 ON). If both of these switches are set to ON or both set to OFF, then the motor will not operate.

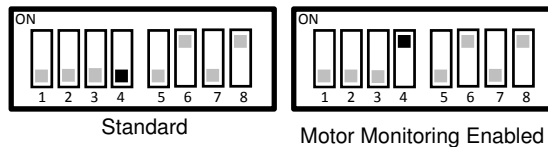
Use either the lid mounted buttons or the key switch to move the shutter to its end of travel position and set the respective limit as per the motor manufacturer's handbook.

Configure the System

A full list of DIP switch functions can be found on page 12

Motor Monitoring

Factory set to OFF, this function is not available with all motors see 'Motor Type' section page 8 for further information



When a conventional 4 wire tube motor is used with DIP 4 set to ON the ProMate monitors end limits and also monitors that the motor is rotating when the shutter is between end limits with the motor output on. If it stops due to pin or ground locks, mechanical jamming or the safety brake engaging it will remove the power to prevent overheating and 'burning out'. This relies on the mechanical construction of the shutter and associated parts being capable of withstanding the forces exerted on them by the motor as it comes to a stop. (See EN12604 Design and Construction 4.2.2 Strength)

The Motor Output LED:

Comes ON solid when power is applied to the motor and it is moving unobstructed between limits.

Flashes rapidly on leaving or arriving at an end limit or when rotation is not detected.

The Motor Output will be turned Off:

After 1 second when the shutter is opening or closing if the motor is stopped by pin locks, safety brake activation or mechanical jamming of the shutter.

After 2 seconds when arriving at the end limit position.

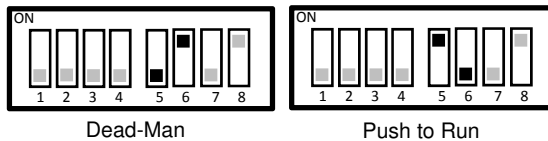
After 5 seconds if motor rotation has not been detected.

Motor Type

Motor monitoring can only be used with standard 4 wire tube motors, it will not work with 5 wire tube motor or relay interfaces, for further details please contact CSL.

If a constant live supply is required for a 5 wire motor then this is available on terminal T5. This output is fed directly from the Power-In terminal T9 and is not protected by the on-board fuse F1, it is only protected by the mains supply fuse feeding the ProMate so the cable must be sized accordingly. The maximum load connected must not be greater than 6 Amps.

Key Switch Operation



The ProMate comes set to operate in 'Dead-Man' mode (also known as 'Hold to Run') for both directions. If the shutter does not contravene the requirements in EN12453 for Push to Run Open, the OPEN direction can be set to 'Push to Run' mode by turning DIP 5 ON and DIP 6 OFF.

When Push to Run Open is selected there are 2 modes of operation:

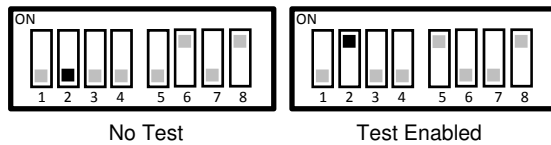
Push to Run Open without Motor Monitoring

The Push to Run Open Selected LED will be ON with an OFF blink every 6 seconds to show that on receipt of an open command the motor output will be on for a fixed time of 90 seconds.

Push to Run Open with Motor Monitoring

The Push to Run Open Selected LED will be ON to show that on receipt of an open command the motor output will be on until 2 seconds after the top limit is reached it will then go OFF as power is removed from the motor. The max run time is 90 seconds for Push to Run

Stop Switch Testing

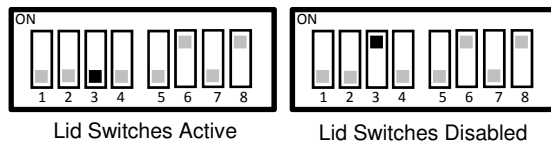


To protect against short circuit faults on normally closed (N/C) Stop Switch circuits you can select Stop Switch Test before opening. This is only applicable if Push to Run open has been selected and a switch that incorporates a stop button has been used.

In this mode it requires the STOP SWITCH to be pressed and released prior to the OPEN command being given when in Push To Run mode, otherwise the shutter will only open in Dead-Man. DIP 2 (factory set to OFF) should be set to ON to enter this mode.

*When set to this mode, if the External OPEN command is received without the STOP being pressed first then the OPEN LED will flash and the STOP / SAFETY LED will illuminate for three seconds. **Only use when Push to Run Open is selected***

Lid Button Disable

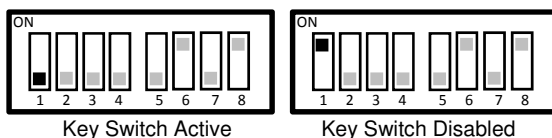


The ProMate has OPEN and CLOSE switches mounted on the upper fixed lid to allow local control and assist with the initial installation and routine maintenance of the shutter. These always operate in 'Dead-Man' mode, even when the external switch is set to Push to Run.

In situations where the control unit is mounted within reach of people who should not be able to operate the shutter these buttons can be disabled. DIP 3 (factory set to OFF) should be set to ON to disable the lid buttons.

When set to this mode the Lid Buttons Disabled LED illuminates. If the switches are pressed while disabled the corresponding OPEN or CLOSE LED will flash rapidly

External Key Switch Disable



The ProMate is generally controlled from a key switch, or in some cases it may be connected to other equipment such as a security alarm or remote receiver. To allow engineers to work safely on the shutter during installation or while carrying out routine maintenance or repairs, the OPEN and CLOSE inputs can be disabled. This removes the need to collect in keys or disconnect devices. DIP 1 (factory set to OFF) should be set to ON to Disable the OPEN and CLOSE inputs, the lid mounted LED's remain functional to provide feedback.

When set to this mode the External Switch Disabled LED flashes. If the key switch is activated while disabled the corresponding OPEN or CLOSE LED will flash rapidly

Battery Backup

When used in conjunction with a CSL battery backup unit (BBU), the ProMate will provide normal operation of the shutter during a power failure. The only noticeable difference will be a short time delay between pressing the switch or turning the key and the shutter starting to move. If Push to Run open is selected it will only operate in Dead-Man until mains power is restored.

Installation and Connections

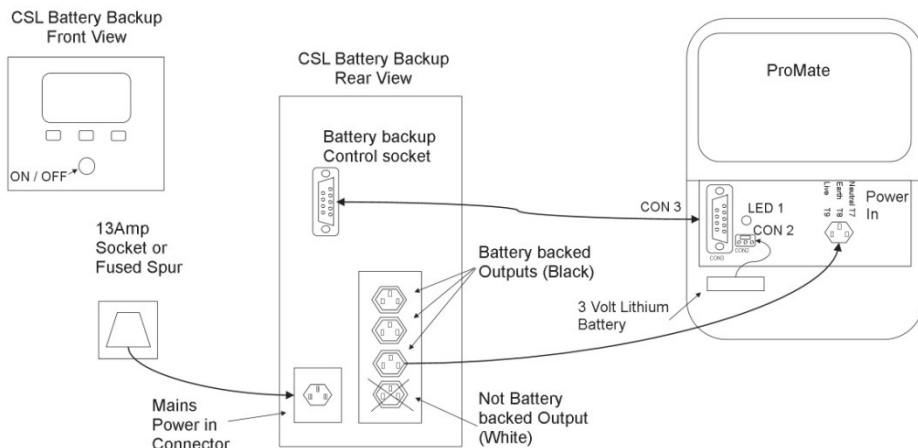
The BBU should be mounted in a ventilated accessible location. There is a small 3.6 volt battery supplied with the BBU, this should be plugged into the white 3 pin connector on the left hand side of the ProMate PCB labelled CON 2. It provides the wake up signal to the BBU in the event of a power failure. It should be secured using the adhesive pad supplied with it.

The cables required are supplied with the BBU, these are:

A standard mains lead to connect the BBU to the mains supply (plug socket or fused spur fitted with a 10 Amp fuse)

An IEC power cable which goes from the BBU output socket to the mains input point on the ProMate. If a mains cable was supplied with the ProMate it should be discarded.

A control cable which goes from the BBU multi-pin socket labelled RS232 to the ProMate multi-pin socket labelled CON3.



Operation and Maintenance

Once the ProMate battery has been connected and all the cables plugged in, apply power to the BBU. Next press and release the POWER on/off button on the front of the BBU, the display illuminates on the BBU and LED 1 on the ProMate comes on solid.

After a few seconds the BBU output will come on, the ProMate will show Mains power on and can be used as normal. In the event of a power failure the BBU will go into a sleep mode to save battery power; to operate the shutter either turn the key switch or press one of the lid mounted buttons, the BBU will then wake up and after about 10 seconds start to supply power to the ProMate. The shutter can then be operated as normal.

The BBU carries out a periodic self-test on its internal batteries, their condition is indicated on the BBU LCD display and an alarm will indicate if they need changing. The 3.6 volt Lithium battery in the ProMate has been designed to last 5 years.

Important

The battery mounted in the ProMate for use in conjunction with the BBU is a 3.6 volt Lithium Thionyl Chloride (LTC) and should not be confused with a standard AA battery which is 1.5 volts.

System Information

Lid Mounted LEDs

LED	Indication	Description	Details
Mains / Fault	OFF	No Power to unit	
	ON	Mains Power On	
	FLASHING	Powered from Battery Back Up	Page 10
Open/Close Command	OFF	Waiting for Open / Close Input	
	ON	Input received, Motor Output On	
	FLASHING	Input received but Ignored	Page 9,10
Stop Circuit / Safety Brake	OFF	Stop & Safety Brake Circuit Healthy	
	ON	Stop Circuit Activated	Page 5,9,13
	FLASHING	Safety Brake Circuit Activated	Page 5,13
Push To Run Open (Close is always Dead Man)	OFF	Dead Man Open & Close	
	ON with off blink	Push to Run Open, Motor Monitoring Off	Page 8
	ON	Push to Run Open With Motor Monitoring On	Page 8
Motor Output On	OFF	Motor Power Output OFF	
	ON	Motor Power Output ON	Page 7
	FLASHING	Motor Status Fault for further details see Troubleshooting	Page 13
Lid Buttons Disabled	OFF	Lid Mounted Buttons Operable	
	ON	Lid Mounted Buttons Disabled	Page 9
	FLASHING	Disabled Lid Button Pressed	Page 9
External Switch Disabled	OFF	External Switch Inputs Operable	
	FLASHING	External Switch Inputs Disabled	Page 10

DIP switch Information

DIP Switch	Factory Setting		Function		Details
1	OFF		ON	External Switch Disabled	Page 10
2	OFF		ON	Stop Switch Test Active (DIP 5 must be ON as well)	Page 9
3	OFF		ON	Lid Buttons Disabled	Page 9
4	OFF		ON	Motor Monitoring Active	Page 7
5	OFF	Dead Man Open	ON	Push to Run Open	Page 8
6	ON		OFF		
7	OFF	Motor Direction Standard	ON	Motor Direction Reversed	Page 6
8	ON		OFF		

Note: Movement in the CLOSE direction is always 'Dead Man'

Troubleshooting

A full list of LED indications is shown opposite with details of where further information can be found, the following points should be read in conjunction with that.

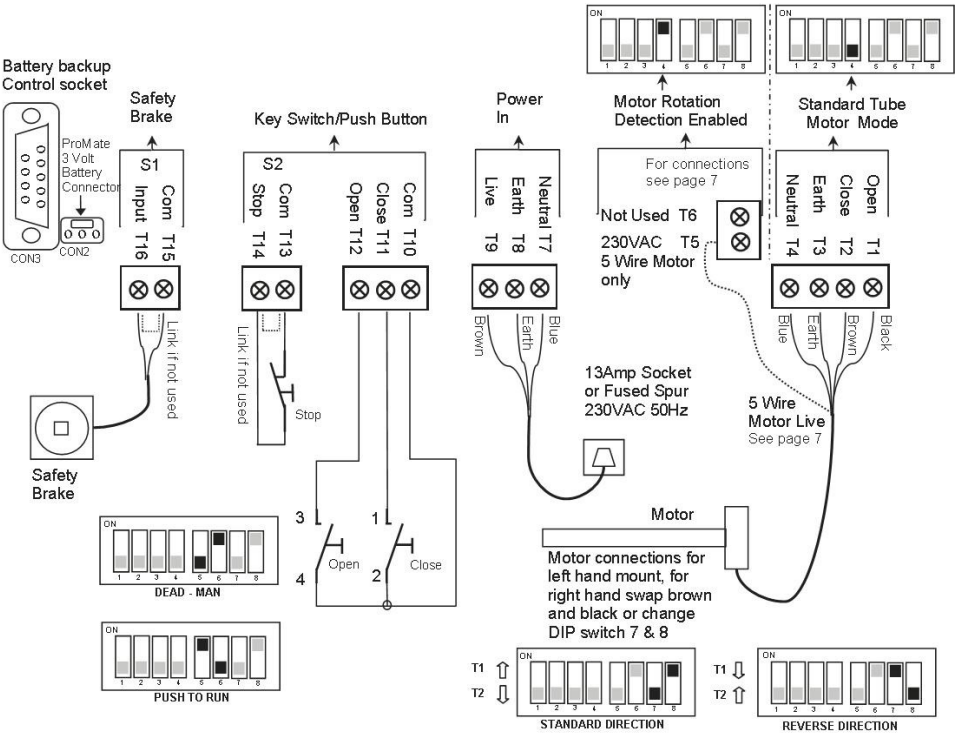
Description	Possible Causes	Action
Mains / Fault LED OFF	No Power to unit	Check power supply at source, fuse in plug and on PCB and check wiring
	ProMate in 'sleep mode' if Battery Back-Up (BBU) fitted	Wake BBU by pressing lid buttons or key switch, check BBU & connections
Motor Output Rapid Flashing	Motor not connected	Check motor wiring T1 – T4
	Motor at end limit position	Move shutter in opposite direction
	Motor Thermal Trip	Allow motor to cool then retry
	Both limit switches open	Check, reset limits if required
	5 wire motor connected	Set DIP 4 to OFF
	Auxiliary relays connected	Set DIP 4 to OFF
	Pin lock/Safety brake/ Shutter jammed	Check for locks, safety devices and obstructions or damage. Changes to 1 flash when Motor Output turns OFF
1 Flash	Pin lock/Safety brake/ Shutter jammed	Check for locks, safety devices and obstructions or damage.
2 Flashes	Relay Weld	Electrical fault, Consult engineer
3 Flashes	DIP switch set incorrectly	Check DIP switch settings Page 12
4 Flashes	No Internal 3.6 volt battery	Check connection to CON 2, page 10
Battery Back-Up not working	The BBU may be turned OFF or not connected correctly	Check connections and status of equipment
	3.6 volt battery not fitted to ProMate(Only required if CSL BBU used)	See '4 Flashes' above and page 10 for further information
Shutter will not OPEN / CLOSE LED Flashing	Lid buttons disabled	Turn DIP 3 OFF
	External buttons disabled	Turn DIP 1 OFF
	Safety / Stop activated	Check switches, wiring, links T13-T16
	Motor at end limit position	Check limits, try opposite direction
	Motor Thermal Trip	Allow motor to cool then retry
	Motor not connected	Check motor wiring T1 – T4
	Pin lock/Safety brake/ Shutter jammed	Check for locks, safety devices and obstructions or damage.
LED Off	Faulty key switch or wiring	Check switch & wiring Try Lid switches

Maintenance

Roller shutters need a suitable system of maintenance at intervals recommended by the manufacturer, this needs to be able to be carried out safely by the engineer. The ProMate itself does not require any maintenance.

Wiring diagram

Always disconnect the mains supply before making any connections.
Refer to Safety Information on page 3, full terminal details are shown on page 5.
If the motor limits are to be set using a test lead then this should be done prior to connecting the wires to the ProMate.



Specification

Supply	230VAC 50Hz	Enclosure Dims (WxHxD)	180 x 220 x 55mm
Motor	230VAC 5A Max	Enclosure Rating	IP20
Fuse	T6.3A 250V	Operating Temperature	-20 to +60c
Safety Input	1 x Safety Brake N/C	Standby Power	< 0.5 Watt
Stop Input	1 x N/C	Operating Class	1

Part Numbers

ProMate with IEC cable	PR-S-000-01
ProMate with IEC No cable	PR-S-000-00
ProMate with standard cable	PR-S-000-11
ProMate with terminals No cable	PR-S-000-10

Operation

Only trained persons may operate the shutter.

Operate the shutter from a position where you are not at risk of injury or entrapment, the whole of the shutter must be in full view and free from obstruction, no one should enter the area around the shutter while it is in motion.

The shutter can be controlled from either a key switch or buttons mounted on the lid of the control unit.

To close the shutter: Check that it is safe to operate it, then press and hold the close button or turn and hold the key switch in the close direction. The shutter will start to close and continue until it reaches the fully closed position where it will automatically stop at a pre-set end of travel limit position. If you release the button or key before it reaches that position it will stop, actuate it again to continue closing.

To open the shutter, there are two standard methods depending on the type of shutter fitted and the location it is in:

Dead-Man Open: This is the same as the method for closing, you must keep the key turned or the button pressed to keep the shutter moving. Check that it is safe to operate it, then press and hold the open button or turn and hold the key switch in the open direction. The shutter will start to open and continue until it reaches the fully open position where it will automatically stop at a pre-set end of travel limit position, release the button or key. If you release the button or key before it reaches that position it will stop, turn the key again to continue opening.

Push to Run Open: Check that it is safe, then press and release the open button or turn and release the key switch in the open direction. The shutter will start to open and continue until it reaches the fully open position where it will automatically stop at a pre-set end of travel limit position. During the open cycle, activating any switch will stop the shutter.

Stop Switch, some installations are setup so that the stop button must be pressed first, followed by the open command for the shutter to operate in push to run mode, in this case press the stop first and then the open within five seconds to operate the shutter.

Please consult this manual or contact your supplier for further information, all service work must be carried out by suitably trained personnel.

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ProMate Manual V1.8c

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MAN3038