

Operation, Maintenance and Installation Manual

Revision 10.7 2021

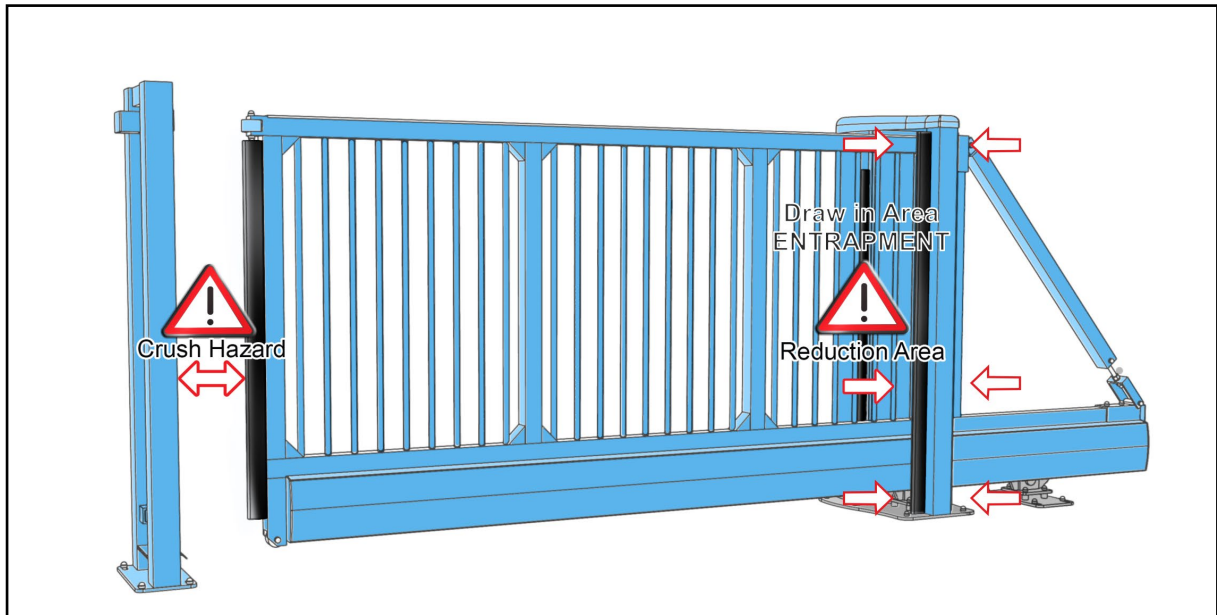
THIS DOCUMENT CONTAINS IMPORTANT
INFORMATION. IT MUST BE KEPT WITH THE GATE
AT ALL TIMES.

Safety Features

Thank you for purchasing one of our perimeter security products.

Your gate will provide safe and reliable service and peace of mind provided that the following instructions and guidance is followed.

Your gate is fitted with a range of safety devices designed to prevent accidents or injury, none the less the area in the immediate vicinity of the gate should be treated as potentially hazardous and avoided whenever the gate is moving (shown below).



Explanation of safety features and gate reaction:

Dual Height Photocells – (either side of moving gate leaf) stops gate closing and reverses to the fully open position.

CAT 3 Safety Edges – Safety edges are direction dependant and will stop gate and reverse in the opposite direction to which the gate was moving.

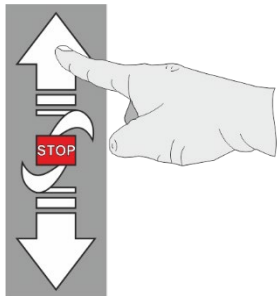
Emergency Stop Button – located on the front of the gate tower this can be used before an incident happens.

Safe use warnings:

1. Do not allow children/people with physical or mental impairment to play on or near the gate. Gates are designed for vehicular use only
2. Keep remote control devices away from children.
3. Do not try to pass through/over/under the moving gate.
4. Do not stop unnecessarily when passing through the gate.
5. Only operate the gate controls when in view of the gate.
6. Do not attempt to interfere or modify the gate from the factory setup.
7. Make sure the gate is maintained by a trained and qualified powered gate specialist at the prescribed 6 monthly intervals and that services are recorded in this manual's log.
8. If any sign of malfunction occurs switch off the gate, manually release it and contact a trained and qualified powered gate specialist immediately.

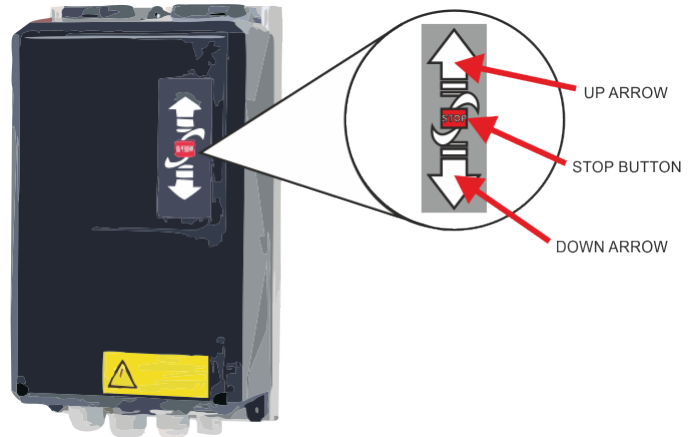
Safe Use Instructions

To open the gate:



Drawing showing the "UP" arrow being pressed

figure.1A



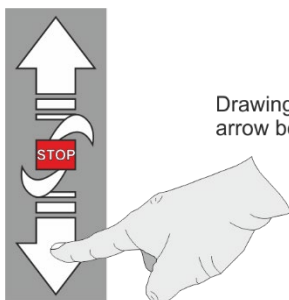
The gate may be opened using the Open push button input, panel mounted keypad button, exit loop or radio fob (if fitted). The gate will smoothly accelerate to fast speed until the intermediate limit is reached, at which point the gate will smoothly decelerate for the remainder of the travel distance. The gate may be closed using the Auto-Close function, the Close button input, panel mounted keypad button or radio fob. The gate will smoothly accelerate to full speed until the intermediate limit is reached, at which point the gate will decelerate for the remainder of the travel distance.

If a safety device is activated (i.e. safety edge or photocell) during the closing cycle the gate will stop & return to the fully open position. The gate may only be closed once the obstruction has been removed.

To close the gate:

If a safety device is activated (i.e. safety edge or photocell) during the closing cycle the gate will stop & return to the fully open position. The gate may only be closed once the obstruction has been removed.

The gate can also be closed by external devices but also using the down arrow on the front of the control panel.



Drawing showing the "DOWN" arrow being pressed

figure.1B

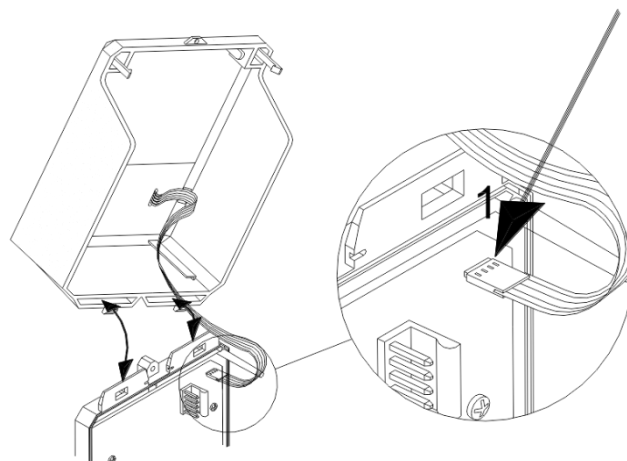


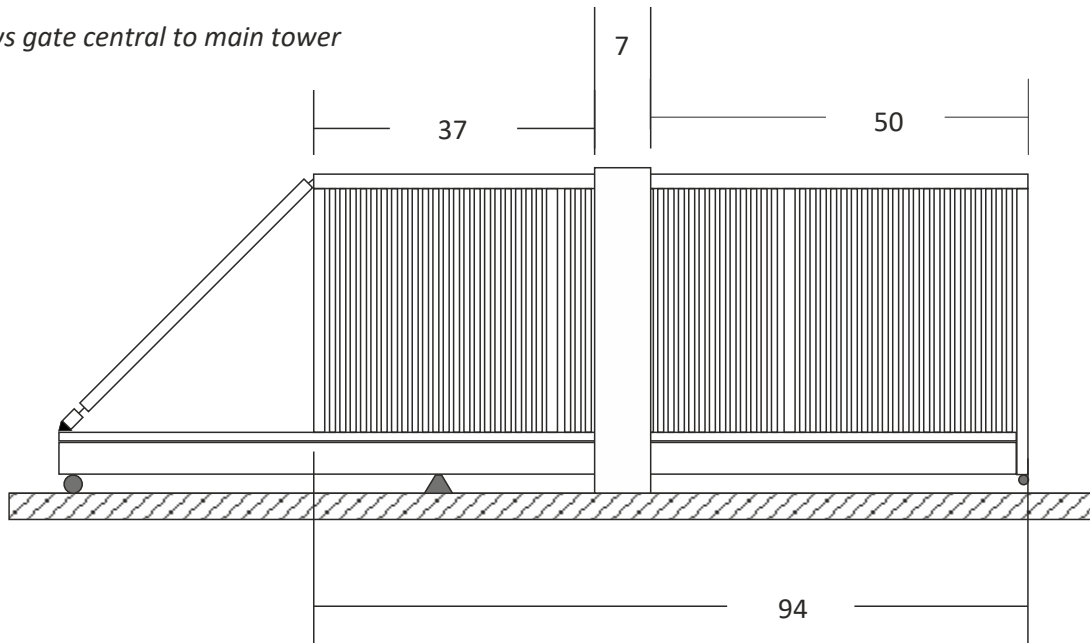
Figure 3: Installation position of the cover

Delivery, Movement & Transportation

This article describes how your equipment will be delivered to you, specifications on the transportation used and advice including health & safety on movement of the equipment.

The gate should ALWAYS! be in the central position before any movement commences, this ensures that the gate does not distort or get damaged. Refer to Manual Release instructions on Page 6 of this manual to move the gate into this position.

Illustration shows gate central to main tower



The manufacturer will use a qualified transport company to deliver the product conforming to the necessary regulations as detailed below:

- All drivers are qualified hi-ab certified
- All drivers are tested once yearly
- All drivers carry risk assessments and method statements (available on request)
- They are controlled under law to conform as there are no trade regulation standards to comply with



Health and safety Considerations:

Moving Goods Safely (MGS) is a national project involving both the Health and Safety Executive (HSE) and Local Authorities (LA) working in partnership. The project aims to reduce injuries and ill-health arising from the movement of goods from supplier through haulier to the recipient and end user including any home deliveries. The project will focus upon the delivery and collection of goods and the hazards this generates. It covers the main areas that cause the majority of injuries and ill-health to workers, including:

- Workplace transport;
- Slips & trips, and;
- Musculoskeletal disorders (MSD).

The movement of goods presents us, as health and safety regulators, with the challenge of dealing with a huge variety of issues. The commercial organisations involved within the movement of goods are diverse including haulier, third party logistics providers, pallet networks, retailers etc, with some very large companies, thousands of small businesses and the self-employed. The movement of goods is more than just trucks on the road with a large proportion of accidents happening at the delivery/collection sites that are often not directly under the control of the company making the delivery or collection. Communication and cooperation problems can arise due to the many organizations involved in the movement of the goods, and this can also lead to difficulties in effectively managing health and safety.

(Source H&S Executive UK 2008)

Delivery Chock Removal

1. Locate chocks (either side of wheels).



2. Remove nuts and bolts holding chocks in place.

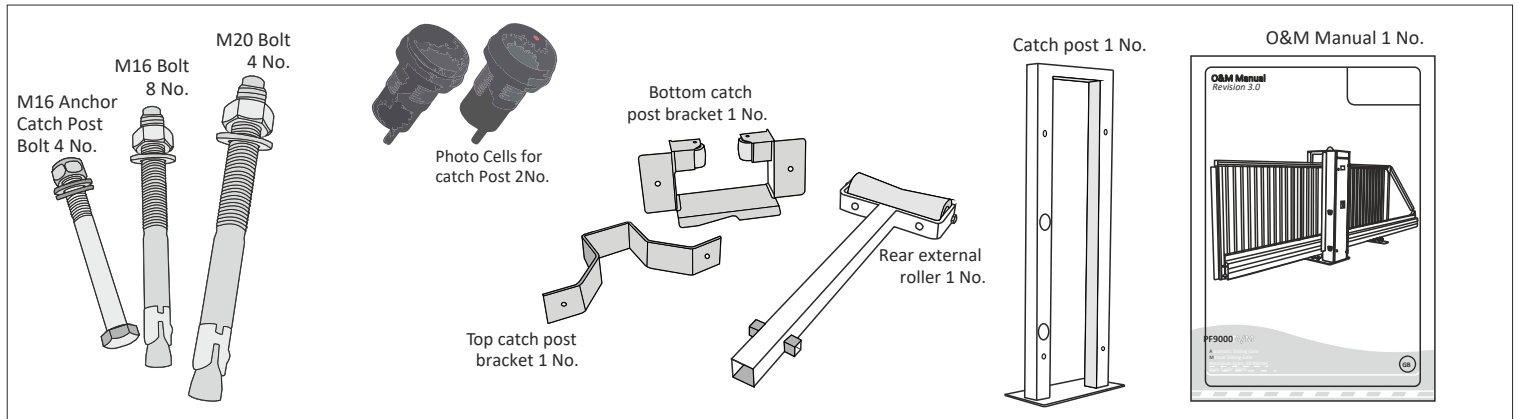


3. Once nuts and bolts are removed, the chocks can be removed from gate beam.



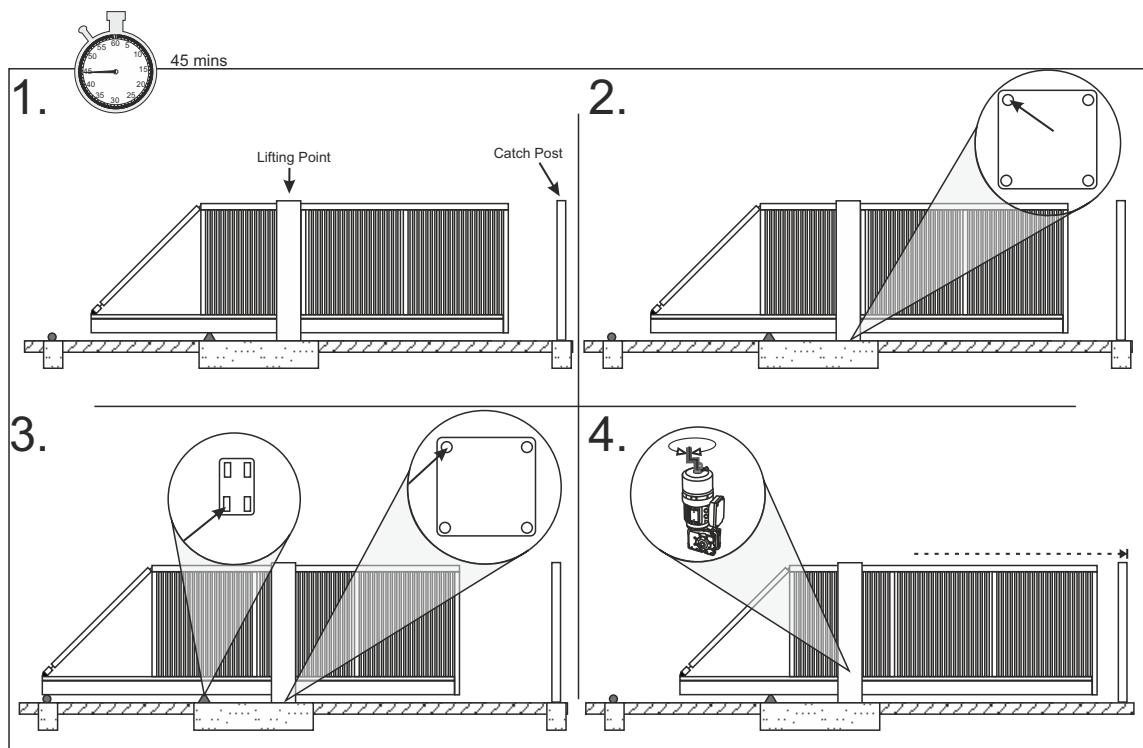
Installation

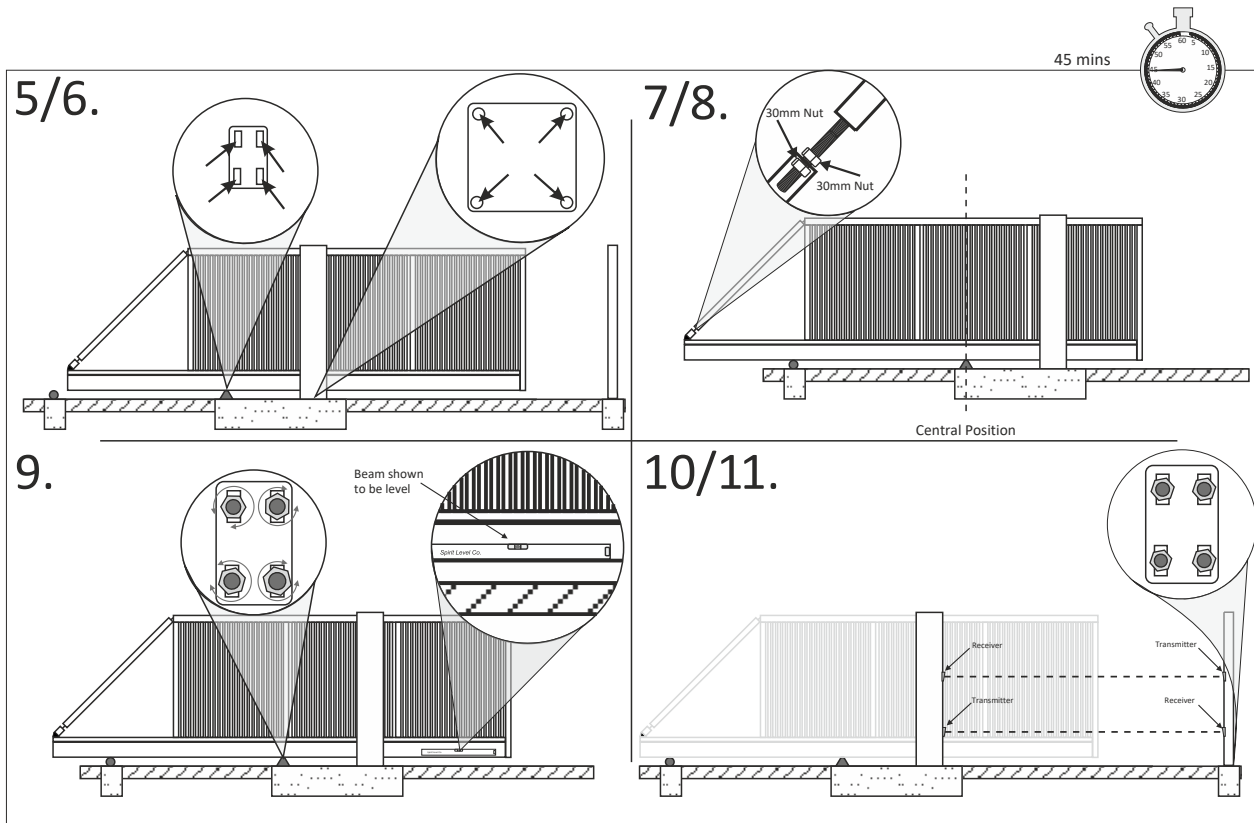
You should check that you have received the following in your order as they are referred to throughout this manual (note this can change per gate spec i.e. manual components are different from automatic):



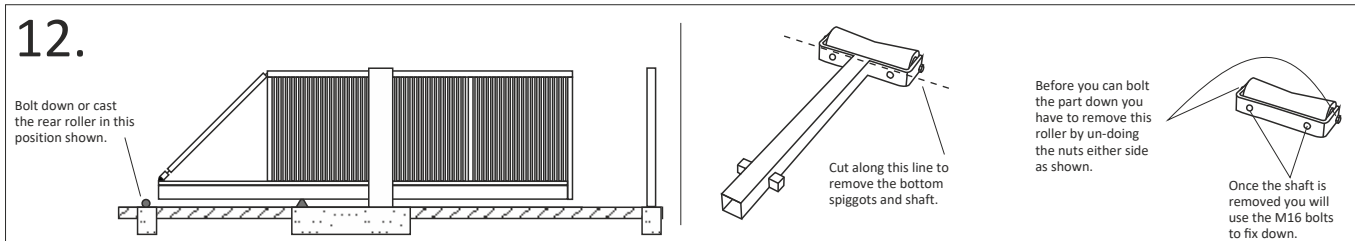
The numbers in the text document below relate to the drawings below.

1. When delivered, the gate is locked in a central position so that the gate is balanced when lifted from the top of the tower.
2. Lower the gate onto the plinth and visually align the gate and catch-post into position. Using one M20 fixing, bolt down the main tower using one of the rear bolt-down holes.
3. Making sure that the gate is still visually aligned, use one M16 fixing and bolt down the rear support wheels (on the opposite side to the hole used on the main tower) see below.
4. Manually slide the gate into the closed position to fine tune the alignment of the gate with the catch post.





- 5.** Manually slide the gate back into the central “balanced” position taking care not to move the tower or rear wheel support base plate.
- 6.** Finish bolting down the rear support wheel base-plate and the main tower of the gate making sure that it is true and square in both directions.
- 7.** Slide the gate until the centre of the lower main beam is in the centre of the rear support wheels and the centre of the main tower i.e. have the lower main beam supported centrally by the rear support wheels and the drive rollers.
- 8.** Undo the 30mm nuts that lock the cantilever arm adjuster to relax the cantilever arm and leave the gate in an unstressed state.
- 9.** Placing a level on the centre of the lower beam or lower rail, adjust the rear wheel support until the lower main beam is level. Manually pull the gate closed and adjust the cantilever until the gate is level.
- 10.** Using a laser square or similar, make sure the photo-cells from the Main Gate Housing to the Catch Post line up (this should be already level as it is governed by the plinth levels).
- 11.** Now fit the two photo cells provided in the pre drilled holes and connect using the wiring diagram (page 8). Once the Photo Cells have been connected, complete the installation of the Catch Post using 4 x M16 fixing bolts (supplied) making sure that it is true and square.
- 12.** Now most important of all, you must fit the rear roller as shown (under the parts list on the previous page), which is universal in the way it can be fitted. It can either be used as a “cast in” post, or the bottom strut can be cut off and used as a “bolt down” roller all illustrated below.



Manual Operation

In the event of a power cut or other fault it will be necessary to move your gate in manual mode. Manual operation should only be attempted by a responsible adult. Before doing this always switch the system off at the main isolator, your installer will have shown you where this is on your system.



You can now move the gate manually. Only move the gate very slowly, no faster than it moves in normal use. Your installer will have demonstrated this at handover.

To return the gate to automatic operation (when the power is restored) simply follow the steps above in reverse order:



Keyswitch

If a fault happens to appear on the controller that relates to a safety device the gate will more than likely only operate in deadman mode. on the front of the tower there is a key switch that can be turned either way to open the gate in deadman operation overriding the faults. if you let go of the key switch whilst the gate is operating the gate will stop until you continue turning the keyswitch. if there is no fault on the gate the key switch will give a normal automatic open and close signal.

If you have two gates working in master and slave mode the key switch will only operate the gate that it is attached to.



Stop Button

If you have an issue and need to stop the gate immediately there is a stop button on the gate that will stop the gate and will not allow it to operate until its released. once pressed in you twist the button and it will release. once released you will need to give the gate another open or close signal for it to start operating again.

If you have two gates working in master and slave mode the stop button will only operate the gate that it is attached to.

End User Regular Safety Checks

General:

Keep the areas adjacent to the gate clear of obstructions at all times, cut back plants and weeds that might interfere with the gate and its safety sensors. Keep the photo electric beam covers clean.

Safety checks:

These user safety checks should be conducted every [few weeks] by a responsible adult who has been shown how to do the checks by a trained and qualified powered gate specialist. We will demonstrate the user checks to you as part of the handover process.

[Insert instructions]

Engineer Planned Preventative Maintenance Schedule

Your gate will need to receive regular planned preventative maintenance in order to remain in safe and reliable service. The maintenance outlined below should only be conducted by a trained and qualified powered gate specialist who is familiar with 9000 automation equipment and has the necessary test equipment. *[insert company]* can provide this service and you will have been offered a maintenance contract as part of the supply process. If the maintenance outlined below is not completed, *[insert company]* cannot accept responsibility for injuries, accidents or breakdowns caused by lack of maintenance.

You are reminded that, as the person in control of the gate, you have a legal duty of care to users and to visitors to the premises (including trespassers). If the gate is not kept safe, any party whose property is damaged or who is injured by the gate is likely to be able to sue for damages.

If the gate is part of an undertaking (such as at rented property), the person in control of it will have additional duties under section 3 of the Health and Safety at Work Act 1974 to keep the gate maintained in a safe condition.

If the premises are also a workplace, there are specific duties under regulation 5 and 18 of the Workplace (Health and Safety and Welfare) Regulations 1992.

Failure to meet duties imposed by health and safety legislation can result in criminal proceedings.

A maintenance log is provided at the end of this book to record completed maintenance. Please make sure the maintenance log is completed and signed on completion of any maintenance work.

At 6 month intervals:

Inspections:

Check that all gear track bolts are tight and secure

Check no teeth are missing from the gear track

Check that all gearbox and motor mountings are tight and secure

Check that the gate manual release is still functioning

Check that the gate moves stable and freely when the manual release is engaged and power is switched off!

Check all running gear fixings are tight and secure

Check flashing beacon is working

Check that the emergency stop button works

Check all safety edges work and are working for the correct direction of travel

Check the photocells are working and in the correct direction of travel

Check that no one has made the gate unsafe by speeding it up past the factory settings

Check that the control program has not been modified such as to make the gate unsafe. Please consult the manufacturer if in doubt

Call the manufacturer to talk this through if in doubt, use common sense and it is better to check everything twice!

Lubrication:

Any grease nipple (All other items are “sealed for life” and require no lubrication)

Function checks:

- Overall gate structure and plumb of hinges
- Lubricate hinges and actuator unit pivots
- Actuator oil level
- Function of actuator manual release
- Actuator hydraulic pressure setting
- Slow down valve setting of actuator
- Torque setting on control unit
- Obstacle detection effectiveness (measure forces)
- Overall function/condition of actuators
- Function and condition of safe edges
- Photocells internal and external
- Sealing of photocell covers and cable entry
- Wire terminations in control panel
- Sealing of control unit cover and cable entries
- Condition of all wiring and junction boxes
- Function of all controls – transmitters, loop and intercoms
- Security and effectiveness of all earth connections
- Test earth fault loop resistance and RCD function
- Reassess and check the ongoing validity of the hazard assessment

Performance tests:

Force Test (Not a legal requirement but advisory)

Check that the manual release is working

Ensure that the gate is running smoothly

Check Flashing Beacon is working

Handover Check list

The following items have been explained to the client: [tick] ✓

- How to operate the gate.
- How to isolate the power to the gate.
- How to manually release the gate.
- How the safety features of the gate work.
- How to avoid any residual hazards associated with the gate.
- How to use the activation devices.
- How to change the batteries on remotes etc.
- How to change the keypad pin code.
- How and when to perform the required safety checks.
- Other [insert]

The following items have been passed to the client.

- Manual release instructions.
- Intercom user manual.
- Declaration of Conformity.
- User warnings and residual hazard identification.
- Planned Preventative Maintenance instructions.
- Maintenance log.
- Other [*insert*]

Installer Name:

Date:

Signature:

Client Name:

Date:

Signature:

Address:

Tel:

Email:

Web:

Maintenance log

Date		Work done	Company
PPM			Name
Reactive			Signature

Date		Work done	Company
PPM			Name
Reactive			Signature

Date		Work done	Company
PPM			Name
Reactive			Signature

Date		Work done	Company
PPM			Name
Reactive			Signature

Date		Work done	Company
PPM			Name
Reactive			Signature

Date		Work done	Company
PPM			Name
Reactive			Signature

Date		Work done	Company
PPM			Name
Reactive			Signature

Address:

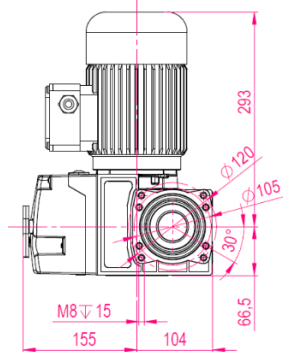
Tel:

Email:

Web:

Component list

Drive unit: **PFL Tornado Gate Drive 3 Phase /550Watts /60Nm Torque /58 RPM /2.3A Nominal Current /25mm Axle**



Control panel: **Feig TST FUZ 2 B**



Photo beams: **Witt Argos-T/ Argos-R TX & RX Through Beam**



Safe edge: **ASO 65mm Profile**

Safe edge controller: **ASO ISK 71-242 Controller/Full Indus Rail Kit**



Encoder: **Feig TST PD-ME-B**



Drive Rack: **PF9-Rack**



Declaration Of Conformity

[Insert Trade Partner Name Here]

We hereby declare that the products described below:

PF9000 Automatic Sliding Gate

are in conformity with the essential requirements of the Supply of Machinery (Safety) Regulations 2008

In addition, the partly completed machinery is in conformity with the Construction Products Directive 89/106/EC, the Electromagnetic Compatibility Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC.

The following standards were applied:

EN 12453:2001	Safety in use of power operated gates - Requirements
EN 12445:2001	Safety in use of power operated gates - Test methods
EN 60335-1:2012 EN	Household and similar electrical appliances – Safety
60335-2-103:2003 EN	Household and similar electrical appliances – Safety
61000-6-1:2007 EN	Electromagnetic compatibility (EMC) - Part 6-1
61000-6-2:2006 EN	Electromagnetic compatibility (EMC) - Part 6-2
61000-6-3:2011 EN	Electromagnetic compatibility (EMC) - Part 6-3
61000-6-4:2011	Electromagnetic compatibility (EMC) - Part 6-4

The relevant technical documentation is compiled in accordance with the Supply of Machinery (Safety) Regulations 2008. We undertake to transmit, in response to a reasoned request by the market surveillance authorities, this documentation in electronic form within a reasonable period of time.
Person authorised to compile the relevant technical documentation:

PFL, Unit One, Kingsbury Link, Tamworth, Staffs, 878 2EX

The machinery is incomplete and must not be put into service until the machinery into which the partly completed machinery is to be incorporated has been declared in conformity with the provisions of the Supply of Machinery (Safety) Regulations 2008.

Place / Date:

Tamworth, 23/06/2021

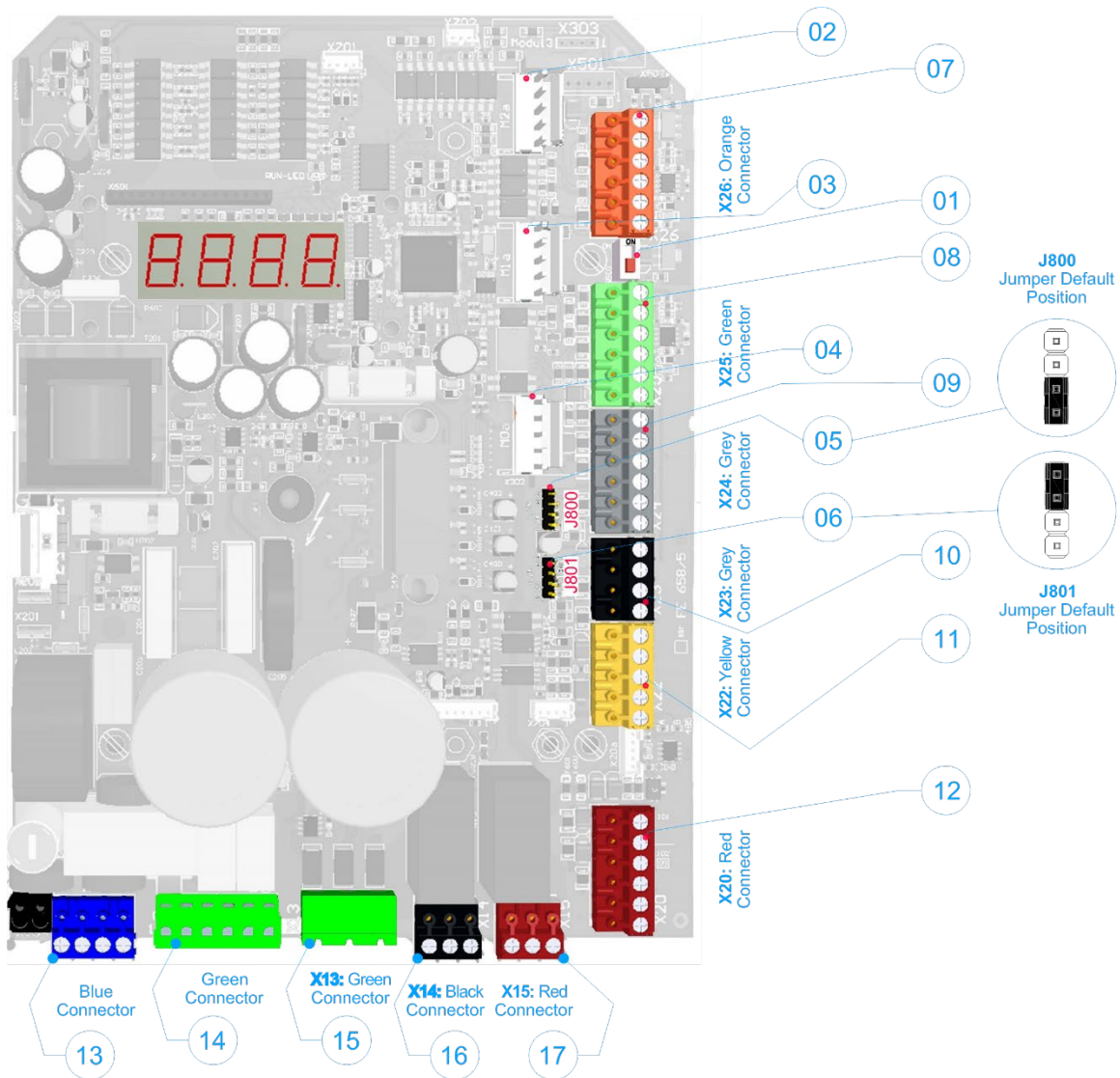
Manufacturer's signature: *A. Curtis*

Position of signatory: **Managing Director**

**UK
CA**

Engineers Section (Not For End Users)

Control Panel Overview



WARNING!

Ensure power to the control panel is removed & power fully discharged, prior to maintenance.

Key	Description	Key	Description
01	S500 - Turn on to access parameters	10	X23 - External pushbutton station connector
02	M2a - Radio card / aux relay plug	11	X22 - Safety Edge / E-Stop 1 connector
03	M1a - Loop card / aux safety card plug	12	X20 - Electronic limits / E-Stop 2 connector
04	M0a - Common plug for radio/loop/safety	13	Aux 230Vac connector (Fused - suitable for brake)
05	J800 - 8.2K / 1.2K safety edge selector	14	PE / Earth connector
06	J801 - Input mode select (default dig)	15	X13 - 3ph Motor connector
07	X26 - Aux limits / Aux input connector	16	X14 - Programmable Relay K1
08	X25 - Photocell / Impulse connector	17	X15 - Programmable Relay K2
09	X24 - Mechanical Limits / Aux inputs		

Parameter Display	Adj. Range	Parameter Function	Factory Setting
Counter Parameters			
P.000		Cycle Counter Indicates the number of previously counted cycles	
P.998	0 to 1	Reset the cycle counter After setting this parameter to 1 the current cycle counter is cleared	0
P.981	0 to 3	cycle counter mode 0: Each time the closed limit switch is reached the count goes up by 1 1: Each time the open limit switch is reached the count goes up by 1 2: With each full cycle the count goes up by 1 (going open and closed) 3: With every open command the count goes up by 1	2
P.005		Maintenance Counter Indicates the number of cycles remaining until maintenance is due (if -1 shows it means the counter has not yet been set)	
P.971	[Cycles] 0 to 9999	Number of cycles after resetting Indicates how many cycles are possible after resetting the maintenance counter until the next warning shows	0
P.972	[Cycles] 0 to 9999	Warning before maintenance counter expiration Indicates the number of cycles before the maintenance counter expires during which I.080 is displayed	0
P.973	0 to 1	Reset the maintenance counter After setting this parameter to 1 the current maintenance counter is cleared	0
P.971	0 to 3	Response to maintenance counter 0: Deactivated 1: Warning I.080 shown on display once maintenance counter is reached 2: Error F.080 shown on display and close in deadman operation only 3: Error F.080 shown on display, open and close in deadman operation only	0
Timer Parameters			
P.010	[Sec] 0 to 9999	Auto close timer 1 Will stay in the open position for this length of time before closing	0
P.015	[Sec] 0 to 200	Optional auto close timer Can be assigned to different inputs for a secondary close time	10
P.020	[Ms] 0 to 3000	Open delay timer Will wait for the set time in milli seconds before opening	0
P.025	[Sec] 0 to 20	Close delay timer Will wait for the set time in seconds before closing after the auto close timer	3
Position Parameters			
P.210		Open and close position calibration	0
P.221	-125 to 125	Closed position limit correction	0
P.222	0 to 2100	Slowdown positions for closing direction	
P.230	50 to 9999	Overall travel increments This parameter shows how many increments there are from the closed to the open position	
P.231	-125 to 125	Open position limit correction This parameter is used to adjust the final open position in increments, - will open further, + will open less	0
P.232	0 to 2100	Slowdown positions for opening direction	
P.241	[%]	Pedestrian open position percentage	50
P.244	0 to 4	Select pedestrian open position 0: No pedestrian open set, pedestrian open is same as fully open 1: Opens to half way point (1/2 of value in P.230) 2: Opens two thirds (2/3 of value in P.230) 3: Pedestrian open position set in deadman 4: Pedestrian open set in percentage (uses P.241)	1
Speed Parameters			
P.310	[Hz]	Frequency for automatic opening speed	
P.320	[Hz]	Frequency for automatic opening speed 2	
P.350	[Hz]	Frequency for automatic closing speed	
P.360	[Hz]	Frequency for automatic closing speed 2	
Run Timer Parameters			
P.410	[Sec]	Run time monitoring for the open direction	10-25
P.415	[Sec] 0.0 to 990.0	Run time monitoring for the close direction Time set is the max run time for the close direction, if movement takes longer then F.020 will display	10-25
P.419	[Sec] 0.0 to 990.0	Run time monitoring for deadman operation Time set is the max run time for deadman operation, if movement takes longer then F.020 will display	60

Safety Edge Parameters			
P.460	0 to 6	Closing safety edge operation 0: Deactivated (make sure cables are removed from terminals) 1: 8k2 resistive safety edge normally open 2: 8k2 resistive safety edge normally closed 3: 8k2 resistive safety edge normally open with testing in closed position 4: 8k2 resistive safety edge normally closed with testing in closed position 5: Dynamic optical system 6: Automatic detection of the connected safety edge	1
P.461	[Cnt] 0 to 5	Maximum number of reversals Maximum amount of times the gate will reverse if the closing safety edge is hit before displaying F.361 (0 to disable)	0

Input Parameters			
P.501	0000 to 1806	Input 1-9 profiles	0401
P.502		0101: Open command (N/O) to fully open position with auto close (P.010)	0101
P.503		0205: Impulse command (N/O) to fully open position without auto close, close on next command	0701
P.504		0501: Safety input (N/C) safety reversing when closing to open position	1501
P.505		0401: Stop command (N/C) stop in any direction and wait for another command after release	1502
P.506		0701: Close command (N/O)	0501
P.507		1501: Simulate foil button open (N/O) (works the same way as the up arrow on the lid of the controller)	0102
P.508		1502: Simulate foil button close (N/O) (works the same way as the down arrow on the lid of the controller)	1111
P.509		1612: Safety input (8k2) safety reversing when opening	1612
P.50A		More options available, check pages 103-108 of the Feig Parameter Description Total Overview manual	

Output Parameters			
P.701	0000 to 3201	Output 1 and 2 profiles	0101
P.702		0001: Output is permanently on 0101: Output activates in the open position 0201: Output activates in the closed position 0401: Output active whilst there are no faults showing on the controller 0801: Output is active during opening and closing operations 1101: Maglock receives voltage when in the closed position 1201: Traffic light on the inside of site 1210: Traffic light on the outside of site 12A1: Traffic light without direction, Flashing during close delay timer (P.025)	0201
P.70F		More options available, check pages 196-197 of the Feig Parameter Description Total Overview manual	

Accessory Parameters			
P.802	0000 to 0302	Plug in card options 0000: Deactivated 0101: TST SURA1 safety edge card fitted (1 8k2 input) 0106: TST SURA6 safety edge card fitted (6 8k2 inputs) 0302: Loop card fitted (single or dual channel)	0106

Display Messages & Fault Codes

General Messages	
STOP	Stop/Reset condition, wait for the next command
EU	Fully closed position
=EU=	Fully closed position has been locked - Opening mode impossible (e.g. air locked)
CLO	Active closing
EQ	Fully open position
=EO=	Fully open position has been locked - Closing mode is impossible (e.g. safety loop)
OP	Active opening
-E-	Part open (intermediate stop position)
=E =	Part open is locked - Closing mode is impossible (e.g. safety loop)
FAIL	Failure - Only Deadman operation is possible, eventually automatic opening
CALL	Calibration - Limit position adjustment during deadman (for TST-PD encoder) - Start operation with stop button
ES	Emergency shutdown - Operation impossible, hardware safety chain is interrupted - check emergency stop circuits
HDSR	Emergency service - Deadman operation without considering safety etc.
HD	Manual operation - Deadman operation
PARR	Parameterization
SYNC	Synchronization (incremental position transmitter/limit switch - position unknown)
RU	Automatic - Indicates change from "Manual Operation" to "Automatic"
HC	Semi-automatic - Indicates change of condition from "Manual Operation" to "Semi-Automatic"
FUS	First display after switch on (Power Up & Self Test)

Status Message during Calibration (TST-PD Only)	
E.I.E.C.	Calibration of close limit is requested (in Deadman)
E.I.E.O.	Calibration of open limit is requested (in Deadman)
E.I.E.I.	Calibration of Intermediate Stop position E1 (in Deadman)

Status Message during Synchronization	
S.Y.E.U.	Synchronisation of close limit is requested (Deadman or wait for start conditions)
S.Y.E.O.	Synchronisation of open limit is requested (Deadman or wait for start conditions)
S.Y.E.I.	Synchronisation of intermediate Stop position E1 (in Deadman)
S.Y.OP	Automatic opening up to mechanical limit stop, then auto-synchronisation of open limit
S.Y.CL	Automatic closing down to mechanical limit stop, observing safety devices, then auto-synchronisation of close limit
S.Y.C=	Automatic closing is locked, cause is indicated upon request

Status Message during Deadman Service	
HD.CL	Deadman closing (membrane button: Closed)
HD.OP	Deadman opening (membrane button: Open)
HD.EC	Close limit has been reached, no further Deadman closing possible
HD.EO	Open limit has been reached, no further Deadman opening possible
HD.RO	Has exceeded the permitted Eo- position (Deadman opening impossible)

Information Messages during Automatic Operation	
I.100	Too much speed when open limit is reached
I.150	Too much speed when close limit is reached
I.160	Permanent open is still active
I.199	Door cycle counter is not plausible (Re-Initialise □ parameters)
I.200	Reference position has been recognised & taken over (for the first time)
I.201	Reference position is deleted, ready for new take over
I.205	Synchronisation of current limit position

Expiration of Delay Times	
r.xxx	Expiration of clearance phase before automatic closing resp. opening
T.xxx	Expiration of keep open time (auto close)

Display Messages & Fault Codes

General Door Status	
F.000	Door position is too high (above open limit)
F.005	Door position is too low (below close limit)
F.020	Run Timer has been exceeded (during Opening, Closing or Deadman) - see P.410, P.415, P.419
F.030	Lag Error (door has not moved off limit - motor stalled)
F.031	Detected rotation direction deviates from expected direction of rotation
F.043	Failure of pre-limit switch for the photocell

Safety/Emergency Stop Chain		
F.201	Internal Emergency Stop or Watchdog (μ Processor safety check) is triggered	
F.211	External Emergency Stop 1 is triggered (Terminals 41 & 42)	
F.212	External Emergency Stop 2 is triggered (Terminals 31 & 32)	
F.360	Short circuit / activation of safety edge	Internal Evaluator
F.361	Number of safety edge activations exceeded - see P.461	
F.362	Redundancy error for safety edge self-check (short circuit)	
F.363	Safety edge is open circuit (broken cable etc)	
F.364	Safety edge testing in closed position failed	
F.365	Redundancy error for safety edge self-check (open circuit)	

General Hardware Failures/Errors	
F.410	Excess current (motor current or FU- overall current) - check motor parameters / mains supply voltage is stable under load
F.420	Excess voltage in DC-bus circuit - check mains supply voltage is not too high / motor is regenerating
F.425	Excess line voltage (mains supply voltage is >256VAC for more than 10 secs)
F.430	Excess temperature of heatsink
F.440	Excess DC current - check mains supply is stable under load / motor is overloaded / mechanical door problem
F.510	Over current - check motor parameters
F.515	Motor protection has detected excess current
F.519	IGBT driver component has detected excess current - check for short circuit / earth fault on motor & motor cables
F.520	Excess voltage in intermediate circuit - check mains supply voltage is not too high / motor is regenerating
F.521	Under voltage in intermediate circuit - check mains supply voltage is not too low
F.524	External 24V supply is missing (possibly short circuit)
F.525	Excess line voltage (mains supply voltage is >256VAC for more than 10 secs)
F.530	Over temperature of heat sink
F.540	Over temperature of brake resistor

General Positioning	
F.700	Mechanical limit switch error - e.g. open & close limits activated simultaneously or intermediate limits are wired N/C
F.750	Data transmission error
F.751	Synchronization FUE <_> Absolute encoders
F.752	Time out during data transmission - No communication with encoder - check encoder cables / encoder parameter P.200
F.760	Position out of usable range
F.761	Distance channel <_> channel 2 out of allowed range
F.762	Electronic end switch positions are incorrect

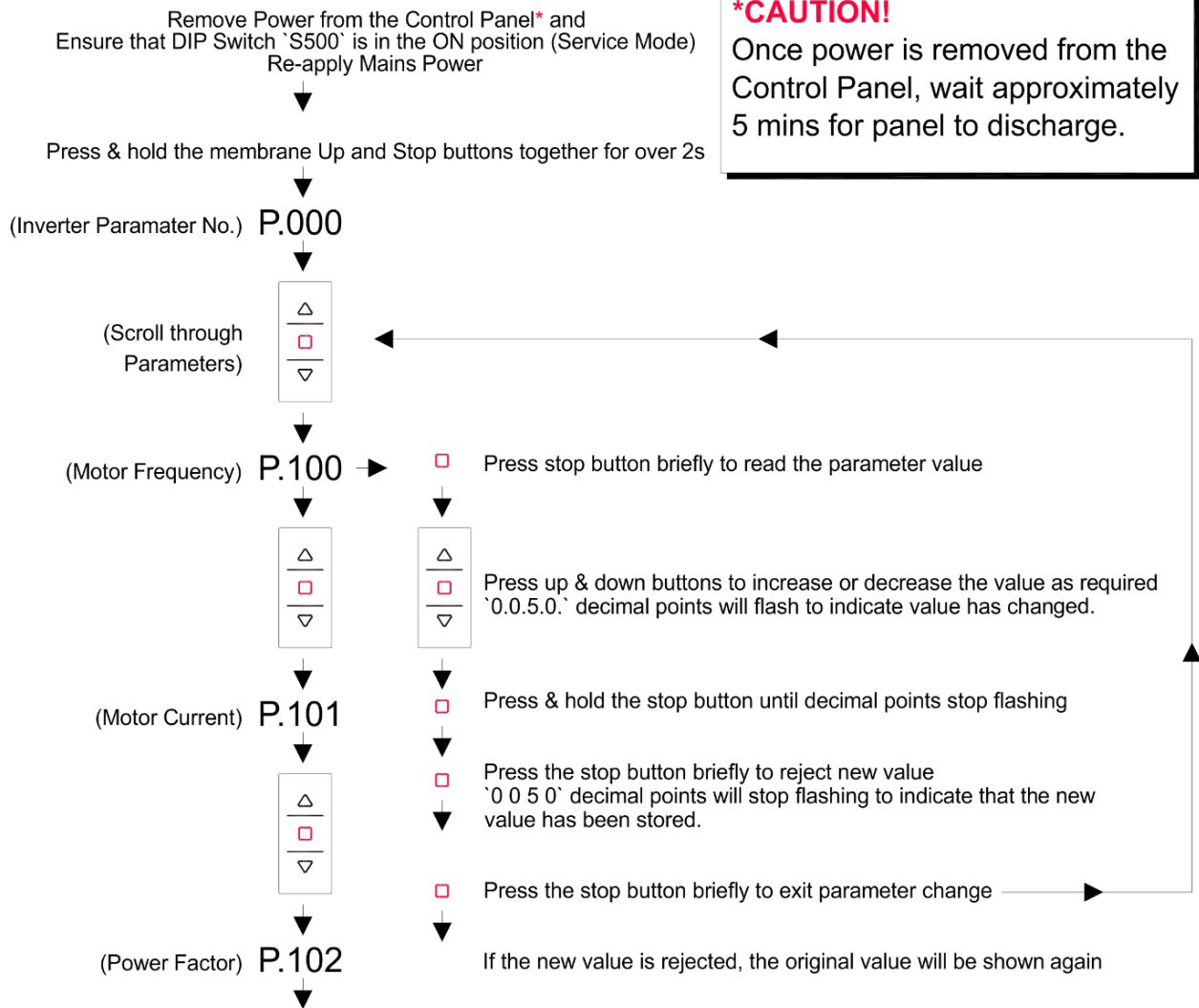
Internal Systematic Errors			
F.920	Internal 2.5V supply is defective	F.960	Parameter check sum
F.921	Internal 15V supply is defective	F.961	Checksum via calibration values
F.922	Incomplete Emergency Stop chain	F.962	Converter parameter not plausible
F.930	External watchdog error / noise saturated environment	F.963	Ramp parameter not plausible
F.931	ROM error	F.964	New software fitted / not initialised (factory default P.990 -1)
F.932	RAM error	F.970	Parameter processing is disturbed

Display Messages & Fault Codes

General Inputs			
E.000	Open button on membrane keypad		
E.050	Stop button on membrane keypad		
E.090	Close button on membrane keypad		
Standard Configuration (Mechanical limits / Encoder)		Parameter	Value
E.101	Input 1: Stop command	P.501	0401
E.102	Input 2: Open command	P.502	0101
E.103	Input 3: Close command	P.503	0201
E.104	Input 4: Deadman Open	P.504	1501
E.105	Input 5: Deadman Close	P.505	1502
E.106	Input 6: Photocell Inside	P.506	0501
E.107	Input 7: Photocell Outside	P.507	0501
E.108	Input 8: Pedestrian Open	P.508	0102
E.109	Input 9: Pull Switch Command (one button to open/close)	P.509	0211
E.110	Input 10: Safety Edge Opening	P.50A	1612
Wireless Plug-in Module			
E.401	Radio Channel 1		
E.402	Radio Channel 2		
Induction Loop Evaluation Device: Plug-in Module			
E.501	Loop Detector Channel 1		
E.502	Loop Detector Channel 2		
Internal Inputs			
E.900	Fault signal of triggering component		

Operation

The gate may be opened using the Open pushbutton input, panel mounted keypad button, exit loop or radio (if fitted). The gate will smoothly accelerate to fast speed until the intermediate limit is reached, at which point the gate will smoothly decelerate for the remainder of the travel distance. The gate may be closed using the Auto-Close function, the Close button input, panel mounted keypad button or radio. The gate will smoothly accelerate to full speed until the intermediate limit is reached, at which point the gate will decelerate for the remainder of the travel distance. If a safety device is activated (i.e. safety edge or photocell) during the closing cycle the gate will stop & return to the fully open position. The gate may only be closed once the obstruction has been removed.

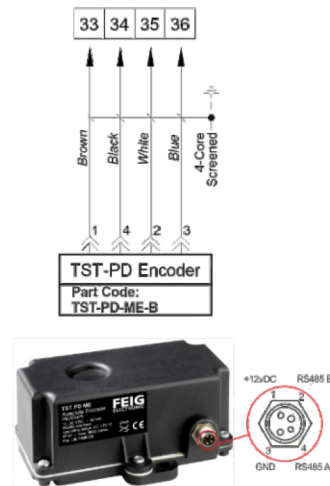
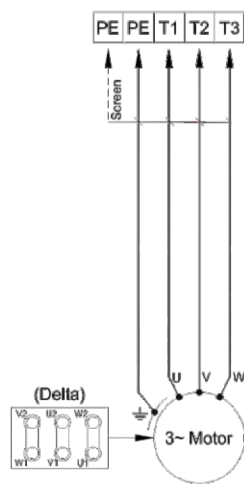


To exit the programming mode, Press & hold the stop button for more than 2s



If the gate set-up is complete, remove the Power from the Control Panel* and ensure that DIP Switch `S500` is in the OFF position (Automatic Mode) Re-apply Mains Power

Basic Setup Connections for Electronic Limits

Note:- If the motor travels in the wrong direction, then swap 'U' & 'V'



Setup for Electronic Limits

On the controller press and hold the stop  and the up arrow  together to enter the parameters menu

The screen will display **P.000** scroll up to **P.210** and press stop to enter the parameter

Change the value to **5**, and press and hold the stop button until the flashing dots disappear

Press stop to exit back to the parameter list then press and hold the stop button to exit the parameters

The screen should now display **CALI**

Press stop to enter the calibration mode and the screen should change to **E.I.E.c.** with flashing dots inbetween each digit

Use the down arrow to take the gate to the closed position (this runs in deadman operation and will stop when you release the button)

Press and hold the stop button to save the position once you are happy with it

The dots should have now stopped flashing and the screen should change to **E.I.E.o.** with flashing dots

Use the up arrow to take the gate to the open position (this runs in deadman operation and will stop when you release the button)

Press and hold the stop button to save the position once you are happy with it

The dots should have now stopped flashing and the screen should display **E.o**

