



Automatic Sliding Gate

Automatic Sliding Gate
Maximum Span: 10 Metres
Duty Cycle: 100%
Instructions For: PF9000A/M



This equipment is part of a large range of traffic flow products. They are designed to be easy to install, as all settings and internal wiring has been completed in our factory. Any of the instructions in this manual should only be carried out by a qualified service engineer or a competent person.

The gates are ready to bolt down, connect in the single phase supply and any loops etc and then power up. In this manual there is important information on how to do this, but most importantly of all how to do this safely. Please approach any task responsibly and safely.

The following information is a guide only, and whilst we have made every effort to be accurate and correct there may be printing errors which we cannot be held responsible for.

With a correct installation you can expect to enjoy many years of reliable service from this product, we do however recommend that the product has a bi-annual service carried out by an engineer. Please contact our service department to obtain a quote. As we manufacture the products we are best suited to care for your equipment.

Thank you for your custom and welcome to the exciting world of Total Traffic Flow Solutions.

Important Safety Notice



Sliding Gates are designed to Control the flow of vehicular traffic primarily. It can be dangerous to allow the passage of pedestrians and any other self-powered animal or device to utilise this method of access without appropriate warnings and or signage.

It may be necessary for the end user of this product to provide an alternative, safe method of access to cater for the previously mentioned categories.

The end user should fit all necessary signage and warning notices to either side of the gate, which should be visible and clear from all directions of approach.

The product that was shipped to you was designed with a control program to protect all categories from harm or affect this however is only a fail safe and should not be modified or tampered with by any unauthorised person not sanctioned by the manufacturer.

Please sign and date below to say that you have read and understood this notice before ANY installation work:

/ /20

The "Warnings" leaflet and "Instruction booklet" supplied with this product should be read carefully as they provide important information about safety, installation, use and maintenance.

Scrap packing materials (plastic, cardboard, polystyrene etc) according to the provisions set out by current standards. Keep nylon or polystyrene bags out of children's reach.

Keep the instructions together with the technical brochure for future reference.

This product was exclusively designed and manufactured for the use specified in the present documentation. Any other use not specified in this documentation could damage the product and be dangerous.

The Company declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documentation.

Do not install the product in explosive atmosphere.

The construction components of this product must comply with the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments. As for all non-EEC countries, the abovementioned standards as well as the current national standards should be respected in order to achieve a good safety level.

Information on using this manual



- Read all information thoroughly
- Pay attention to all safety advice
- Be aware of the symbols (shown above right and above left) as they have different meanings. One is an information symbol, the other a warning.
- There are many artists impressions of the product in this manual you should refer to the images as a guide only. **Professional CAD** drawings should be used as a reference drawing and nothing else. As before every effort has been made to be 100% accurate in this manual but we cannot make any guarantees.
- As we constantly innovate our products we may change the quoted spec and any other details that have been documented in this manual so you should always refer to the supplier to see if the manual that was shipped with your product is the latest edition.
- As with all electrical installations you should use a qualified electrician and obey all of the latest laws and regulations.
- Be sure to fill out and complete **ALL** paperwork where instructed as this manual is the equipments log book and maintenance manual.

The Company declines all responsibility for any consequences resulting from failure to observe Good Technical Practice when constructing closing structures (door, gates etc.), as well as from any deformation which might occur during use.

The installation must comply with the provisions set out by the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments.

Disconnect the electrical power supply before carrying out any work on the installation. Also disconnect any buffer batteries, if fitted.

Fit an omnipolar or magnetothermal switch on the mains power supply, having a contact opening distance equal to or greater than 3mm.

Check that a differential switch with a 0.03A threshold is fitted just before the power supply mains.

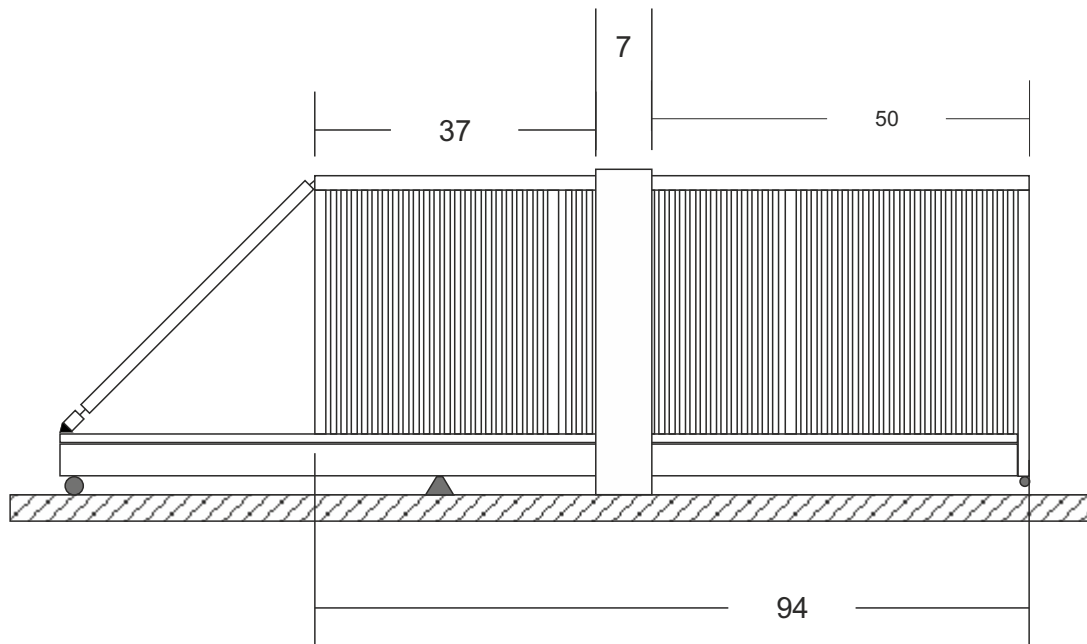
Check that earthing is carried out correctly: connect all metal parts for closure (doors, gates etc.) and all system components provided with an earth terminal.

Fit all the safety devices (photocells, electric edges etc.) which are needed to protect the area from any danger caused by squashing, conveying and shearing, according to and in compliance with the applicable directives and technical standards.

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:

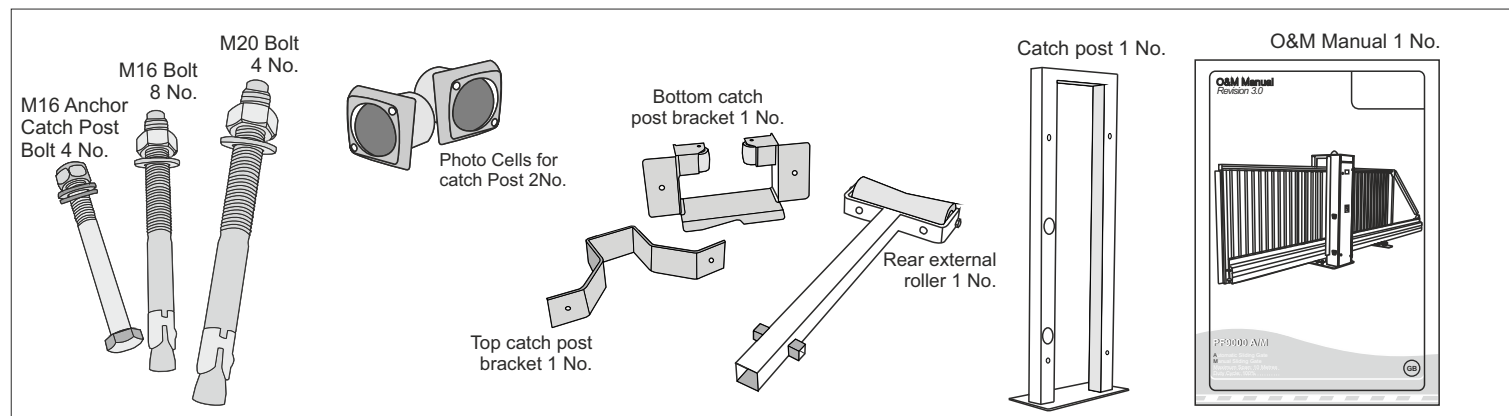
- Workplace transport;
- Slips & trips, and;
- Musculoskeletal disorders (MSD).

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)

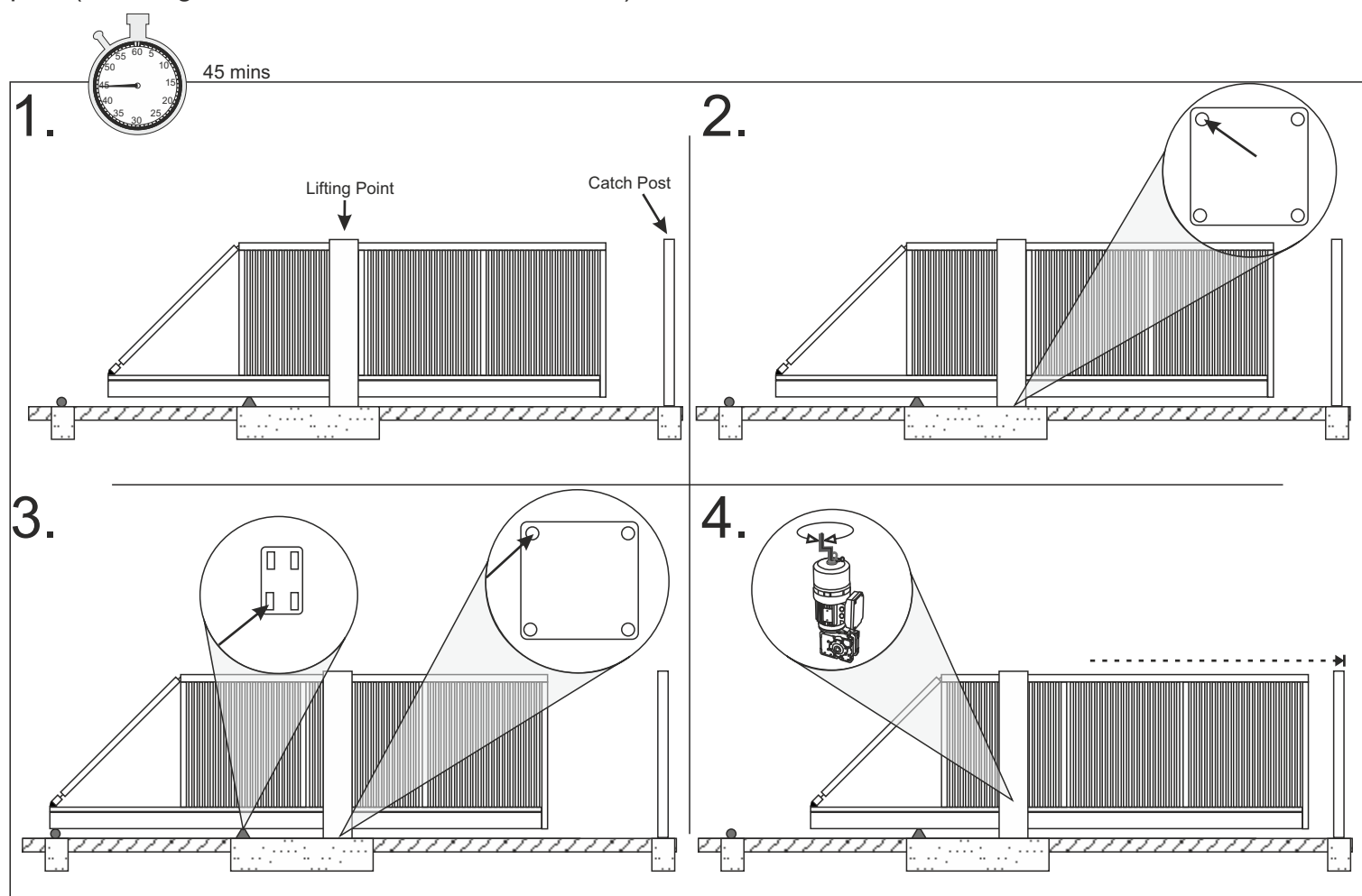
Component Identification and Notes:

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):

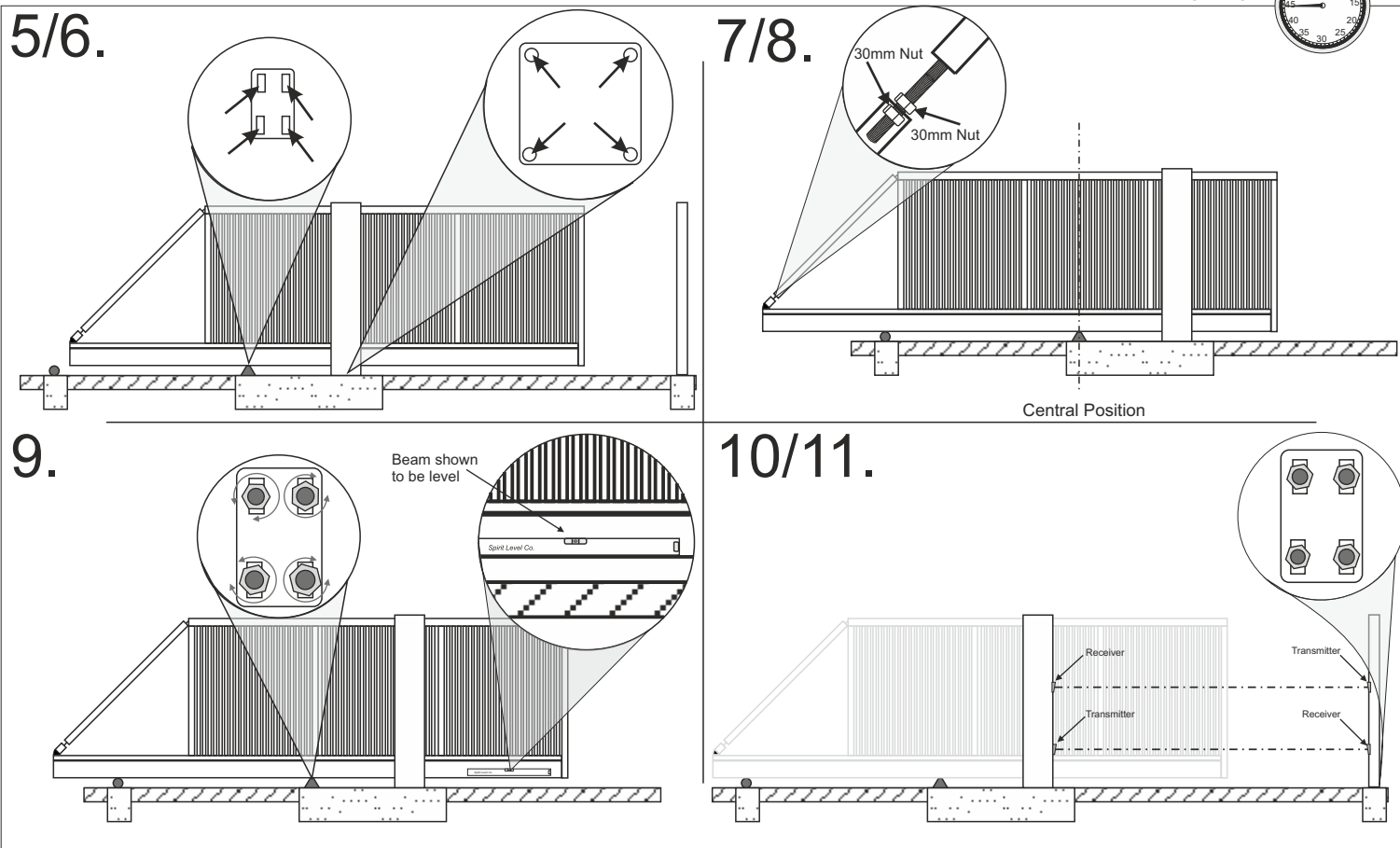


The numbers in the text document below relate to the drawings below.

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. (See Page 6 for details on Manual Release)



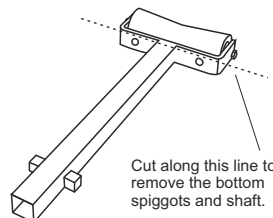
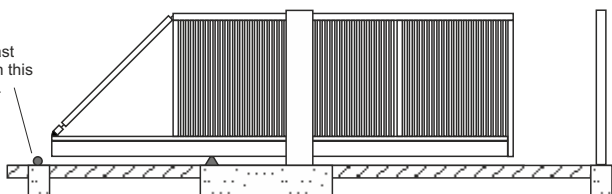
45 mins



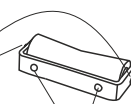
5. Manually slide the gate back into the central “balanced” position taking care not to move the tower or rear wheel support base plate.
6. Finish bolting down the rear support wheel base-plate and the main tower of the gate making sure that it is true and square in both directions.
7. Slide the gate 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.

12.

Bolt down or cast the rear roller in this position shown.

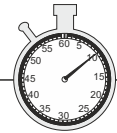


Before you can bolt the part down you have to remove this roller by un-doing the nuts either side as shown.



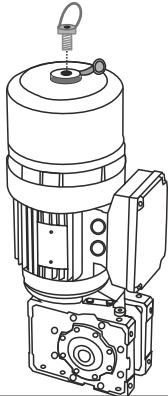
Once the shaft is removed you will use the M16 bolts to fix down.

Please use the following instructions to operate the gate manually, the following is assuming you have powered down the unit and opened the main tower door:



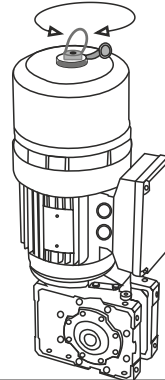
10 mins

1.



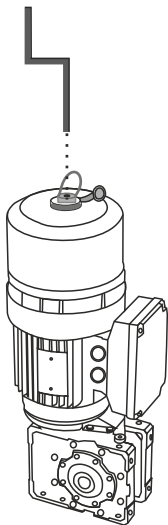
Remove the dust cover plug then get the brake release key from its holder in the cabinet and insert it into the top of the motor.

2.



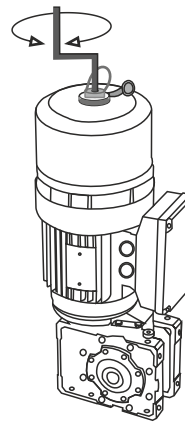
Keep pushing with a downwards pressure and turn clockwise to screw into the hole which will release the brake. Do this until you feel it is hand tight.

3.



Remove the release key from holder on the door then insert the release key in the exposed hole.

4.



Now the Key is inserted fully into the top hole turn clockwise to open and anti-clockwise to close. After this you must remove the brake key and replace the bung. **FAILURE TO DO THIS WILL ALLOW DAMAGE THE BRAKE/MOTOR AND THE GEARBOX. !!!!! THIS IS VERY IMPORTANT!!!!!!**



Gate Maintenance

PF9000 A

PF9000 M



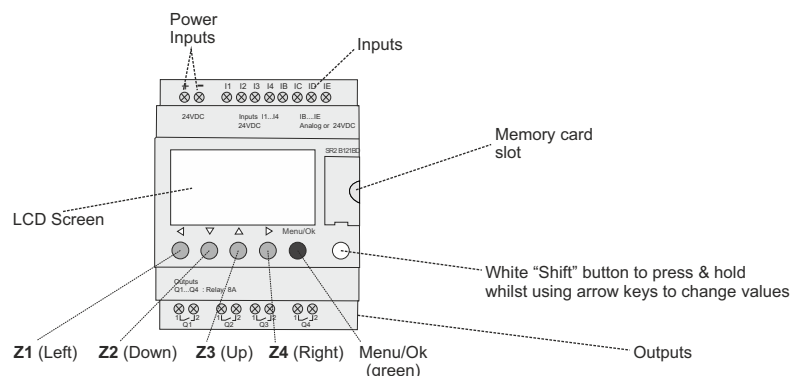
IMPORTANT NOTE

In order for the equipment to comply to the legislation/directives noted in this document it must be maintained and have a maintenance schedule as documented in Regulation 5 of "The workplace health & Safety Welfare Regulations 1992"

As stated at the beginning of this manual we recommend a bi-annual service, but at a bear minimum, it is imperative that you get a service done once every 12 months. This is not a sales tactic in disguise, there is a very serious health and safety issues/risks associated with not complying to this. Also in order for your gate to keep complying with the appropriate legislation.

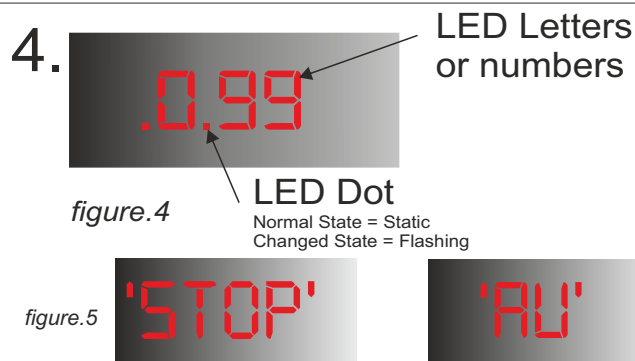
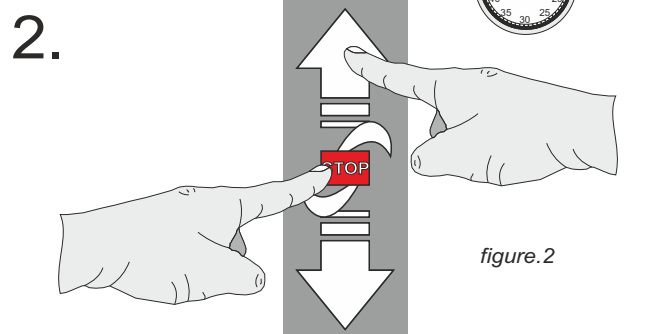
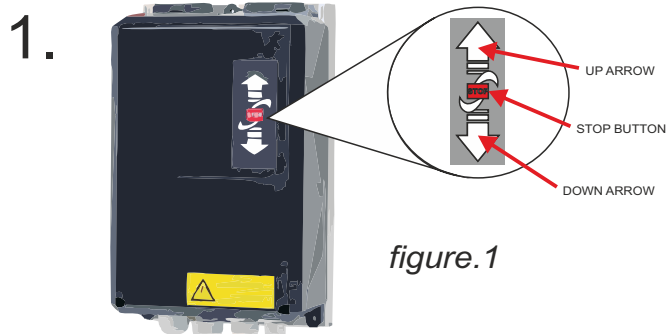
- Before carrying out any maintenance to the installation, disconnect the mains power supply.
- Make sure you have disconnected/isolated the power before attempting any work.
- A Maintenance Contract should be sought from a specialist company after a maximum of 5000 manoeuvres or 1year from the install date.
- Occasionally clean the photocell optical components and make sure they are free from dirt, water, rain, soil etc..
- Have a qualified technician (installer) check the correct setting of the electric clutch.
- If the power supply cable is damaged, it must be replaced by the manufacturer or its technical assistance service, or else by a suitably qualified person, in order to prevent any risk.
- When any operational malfunction is found, and not resolved, disconnect the mains power supply and request the assistance of a qualified technician (installer). When automation is out of order, activate the manual release to allow the opening and closing operations to be carried out manually.
- Gearbox drive unit is "sealed" for life and requires no further lubrication.

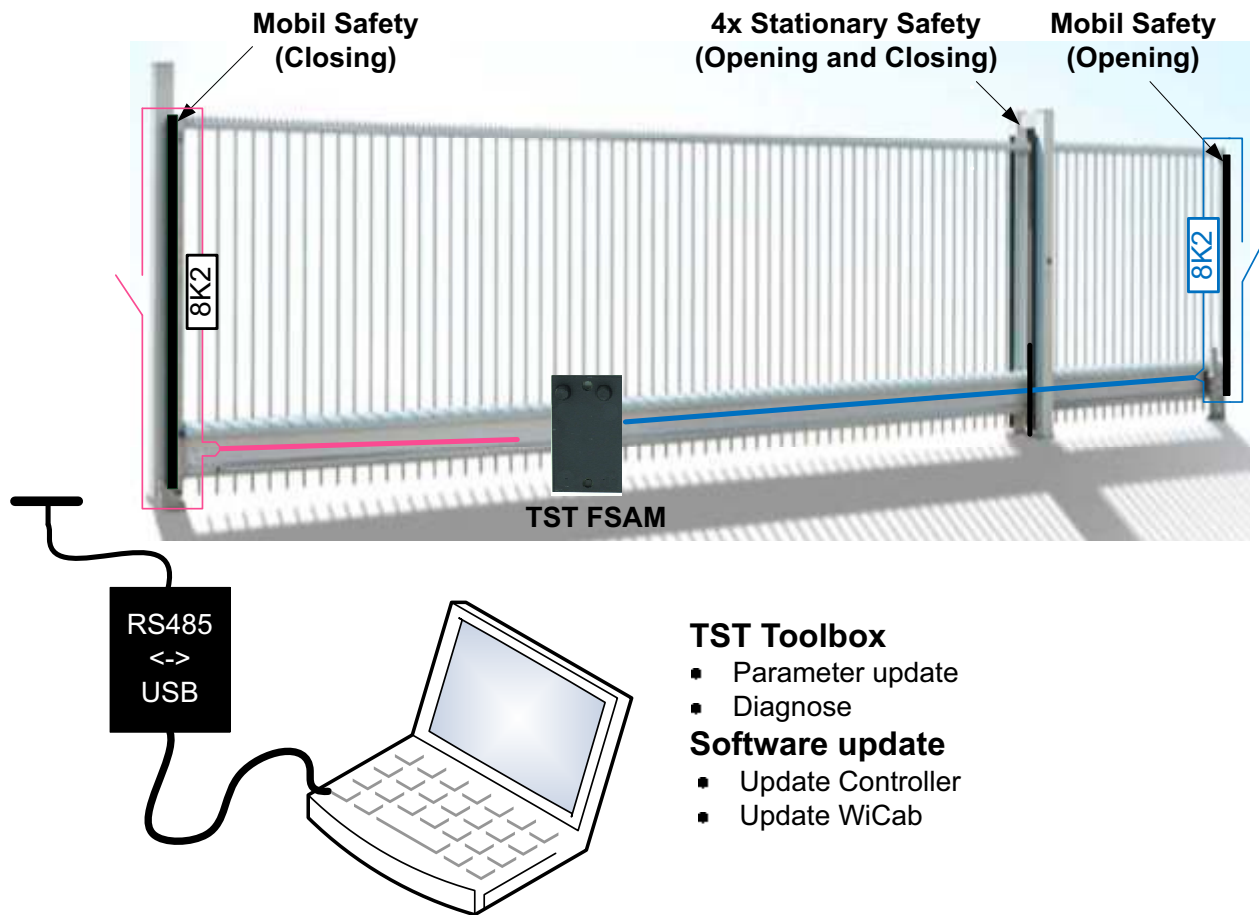
If you have a PLC timer fitted then please use the guide below.



When you first turn the gate on you will need to calibrate the gate, this in laymans terms means teaching the open and close positions. You can also follow this guide should you need to re-teach the positions in the future.

1. Enter the menu following the guide on page 9
2. Go to **P.216** make sure that this is set to value **2** this tells the gate to auto learn new settings
3. Now go to **P.210** and change the value to **5**
4. Exit the menu and the display will show **C.A.L.I.**
5. Press the "stop" button the dots at the bottom of the screen will now flash
6. The screen will display **"E.I.E.U"**
7. Using the "down" arrow move the gate to the close position double check and move to step 8 (you have to hold the button in to move similar to deadman mode)
8. Now you are happy with the close press and HOLD the stop key for 3 seconds to save the position
9. Now the display will change to **"E.I.E.O"**
10. Using the "up" arrow move the gate to the open position double check and move to step 11 (you have to hold the button in to move similar to deadman mode)
11. Now you are happy with the open press and HOLD the stop key for 3 seconds to save the position
12. The display will show **I.555** this denotes that the gate wants to run backward and forward to learn the torque settings and braking distances etc. To complete the learning process just keep pressing the up and down arrow unit the display shows **OPE** when opening and **CLS** when closing. The calibration /Learning is now complete.
13. Now you must enter the menu and change **P.216** back to value **1** and save, this inhibits the gate from self learning and settings thus keeps the positions you have taught in.





TST Toolbox

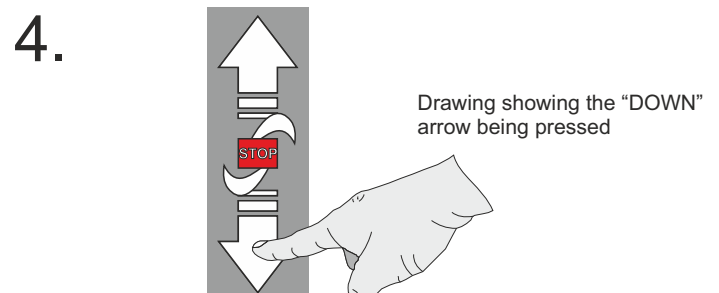
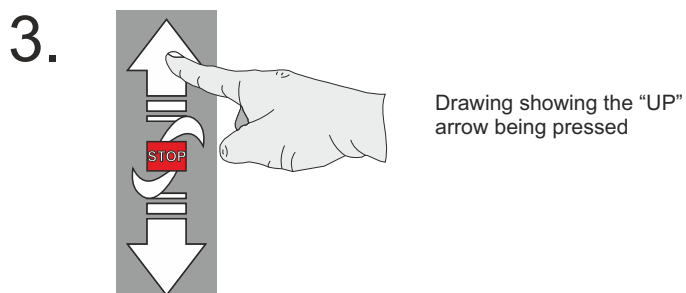
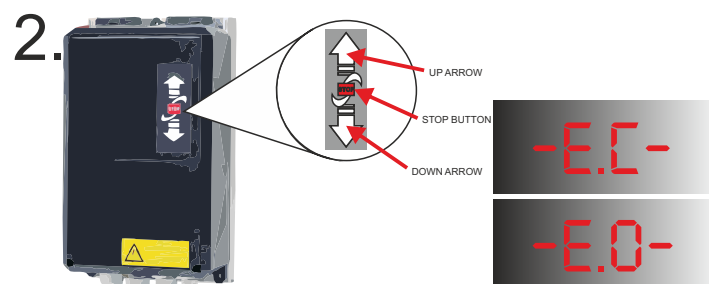
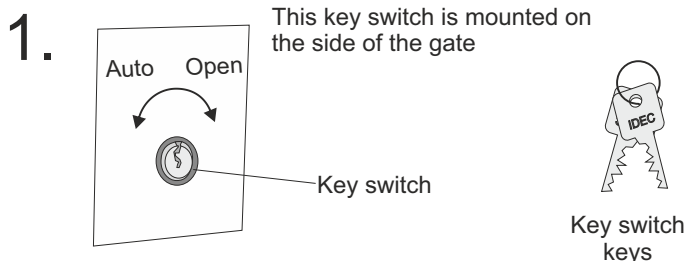
- Parameter update
- Diagnose

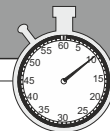
Software update

- Update Controller
- Update WiCab

There are many options to operate the gate and is dependant upon which type of access control you have connected. However there is a standard way to operate the gate by using the key switch and the arrows on the front of the panel. Instructions are assisted by pictures below.

1. Picture shown below is the key switch (if fitted) which is located on the outside of the gate cabinet (it will always be on the opposite side to the gate arm, also picture shows the key switch keys).
 2. To move the gate using the arrow keys on the panel first make sure the screen says “-E.C-” (end position closed) or “-E.O-” (end position open) if it does not follow the troubleshooting guide on page 11 when the screen does say “-E.C-” or “-E.O-” follow below.
 3. To make the gate move to “open” press the up arrow.
 4. To make the gate move to “close” press the down arrow.
- Please note that the step 4 manoeuvre will not work if there is something in the way of photocells a presence on the loops.





10 mins

1.

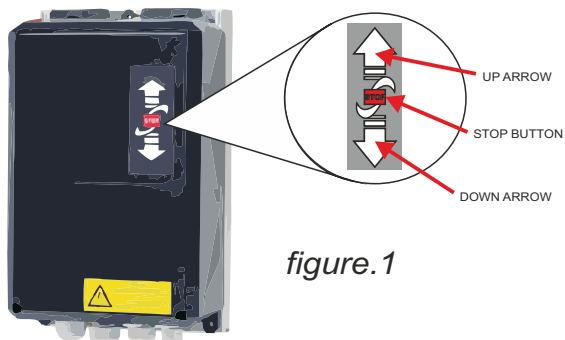


figure.1

2.

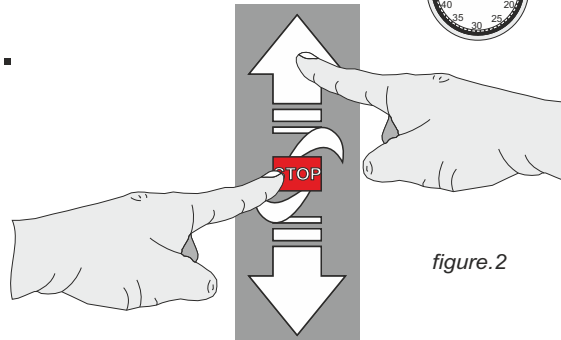


figure.2

3.

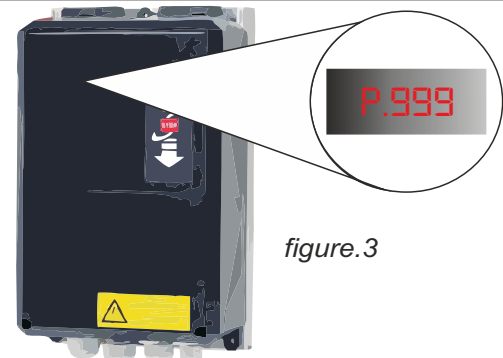


figure.3

4.

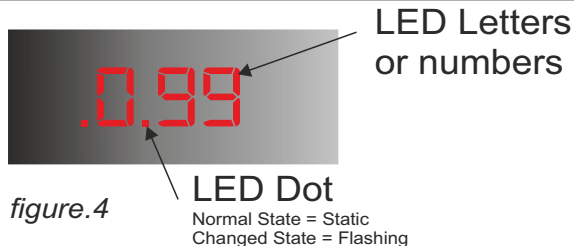


figure.4

figure.5



1. 1. On the front of the panel locate the function buttons (figure.1)
2. 2. Press and hold the “up” arrow and “stop” button together for 3 seconds (figure.2).
3. The LCD display and change to P.000 or P.xxx (xxx will be a parameter number last used) you are now in programming mode and can follow the next line of instructions. When finished and to exit programming mode press and hold the stop button for 5 seconds.
Scroll to P.999 and press the STOP button This will display “0001” change this to “0003” and press and hold stop until the dots stop flashing under this text. Then press and release STOP button again to exit that parameter.
4. To enter a parameter scroll using the arrow keys until the LCD display show the number you require (figure.3) using the command buttons (figure.2). when the display shows the parameter number required in the first column of the table below, press the STOP button for one second. You are now in that selected parameter, should you wish to leave this parameter or discard any changes simply press the STOP button again for 1 second ONLY!!. To make any adjustments in the selected parameter simply use the arrow keys (figure.2) up or down, when the appropriate value is selected you should press and hold the STOP button until the flashing dots between the value cease to flash (see figure.4). The value you selected has now been saved to memory. To exit the menu press and hold the “stop” key for seven seconds until the LCD display shows “STOP” or “AU” (figure.5)



Please note you DO NOT need to use these unless you have a problem!!

1. Follow the guide on page 10, to enter the menu.
2. Scroll to parameter P.990 change the value to 1 (this will default the panel to factory default)
3. Continue to change the parameters to the values below.

Parameter Number	Change to	What this parameter does
P.991	0200	Tells the panel it is connected to a gate
P.990	1	Sets the gate back to default WARNING!
P.802	0302	Activates Plug in loop Detector IF YOU HAVE ONE FITTED
P.702	0801	Set Output 2 to release the brake on the motor
P.507	0501	Enables the top photocells
P.506	0501	Enables the bottom photocells
P.450	300	Increases the lag error detection time
P.438	50	Increases the rotation direction error time
P.352	15	Speed for start of close
P.350	25	Speed for close
P.312	15	Speed for start of open
P.310	25	Speed for open
P.216	1	Prevents the gate re-learning it own parameters.
P.F00	0	Turns off Wireless Safety Edge System

!! P.216 Must be set to "1" when calibration has finished

Message	Short description:	Cause of message
F.020	Run time exceeded (during opening, closing or deadman)	- current motor run time has exceeded set maximum run time (P.410 (Opening), P.415 (Closing), P.419 (Deadman move)), door may be sticking or is blocked - Door is blocked - If using mechanical limit switches, one may not have tripped
F.030	Lag error (position change of the door is less than expected)	- gate or motor is blocked - insufficient power for providing necessary torque - too little speed - mechanical limit switch was not left or is defective - Incremental or absolute encoder shaft is slipping - wrong positioning system selected (P.205) - one motor phase is missing - the brake does not release - Settings of the failure detecting time are not correct (P.430 or P.450)
F.031	Detected rotational direction deviates from expected	- When using incremental encoders: Channel A and B reversed - Motor rotation direction reversed compared with calibration setting ? teach in the limits again (P.210 = 5) - Too much „pancaking“ when starting, brake releases too soon, or too little torque, adjust boost (P.140 or P.145) as necessary.
 F.211	External E-Stop 1 tripped	E-Stop chain was interrupted starting at Input 1
F.212	External E-Stop 2 tripped	E-Stop chain was interrupted starting at Input 2
F.320	Obstacle during opening	During opening an obstacle has recognized
F.325	Obstacle during closing	During closing an obstacle has recognized
F.360	Short circuit detected on edge input	Short circuit detected on edges with normally closed contact
 F.404	Controller hardware reset detected	- Excessive noise on supply voltage - Internal watchdog tripped - RAM error
F.410	Over-current (motor current or DC-bus)	- Wrong motor data set (P.100 – P.103) - Non-adjusted voltage increase / boost set (P.140 or P.145) - Motor not properly dimensioned for door - Door sticks
F.425	Overvoltage line supply	The supply voltage for the controller is to high
F.510	Motor / DC-bus overcurrent Limit 2	- Wrong motor data set (P.100 – P.103) - Non-adjusted voltage increase / boost set (P.140 or P.145) - Motor not properly dimensioned for door - Door sticks
F.520	Overvoltage in DC-bus Limit 2	- Brake chopper interference / defective / missing - Feed voltage much to high - Motor feeds back too much energy in generator mode, door motion energy cannot be sufficiently brought down.
F.521	Overvoltage in DC-bus	- Input voltage supply too low, usually at load - Load too great / final stage or brake chopper fault
F.525	Overvoltage at the line supply input	- The line supply for the Controller is to high - The line supply fluctuates very extremly
F.530	Heatsink temperature outside of working range Limit 1	- Excessive load on final stages or brake chopper - Ambient temperature too low for controller operation - Clock frequency of final stage too high (Parameter P.160)
F.535	Housing temperature high	The temperature inside the controller housing is to high
F.700	Impossible combination of Limits	Both limit switches are active at the same time
F.930	External watchdog incorrect	Defective hardware has been damaged by water or electric



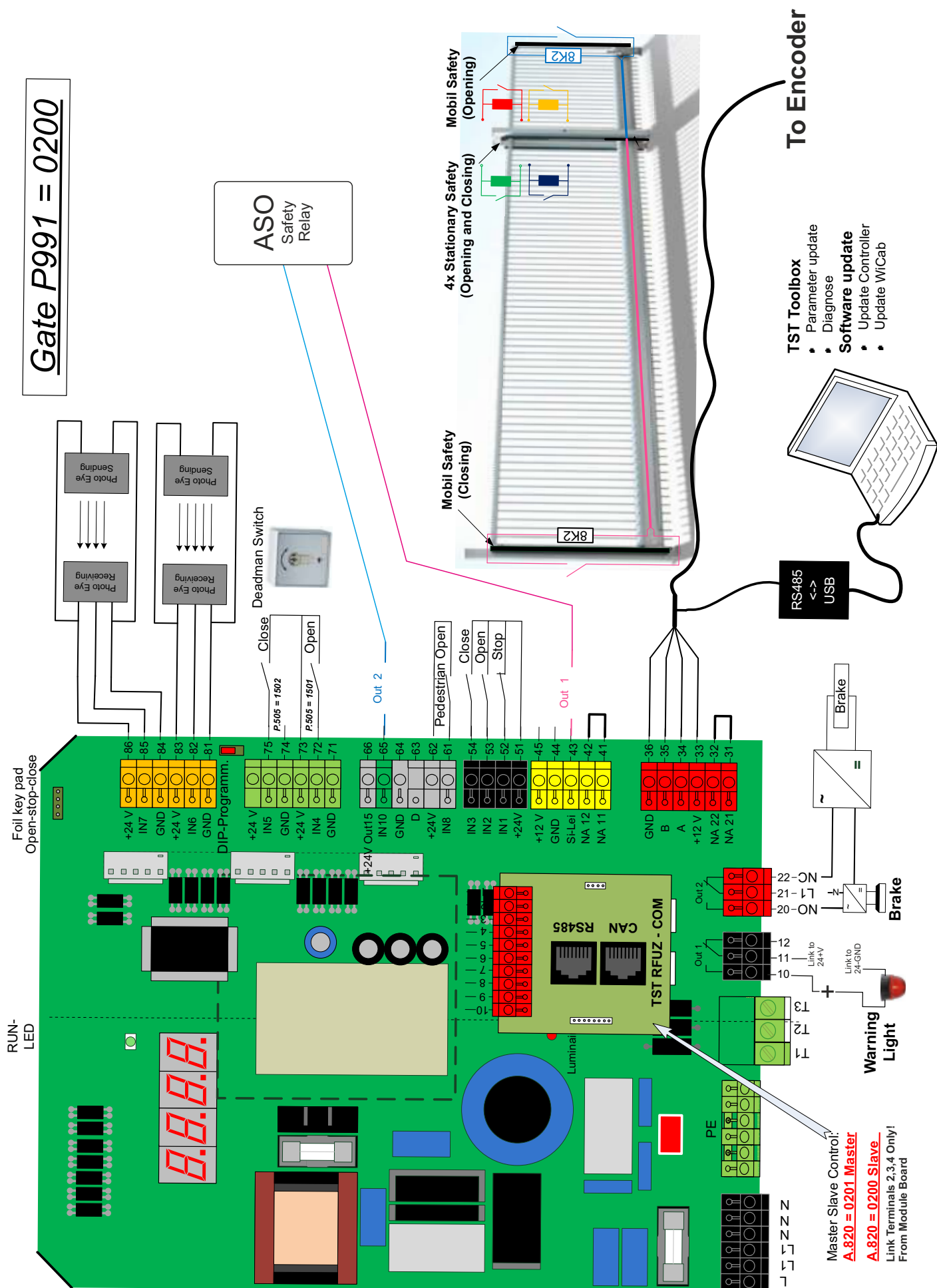
Please note: gate moves only in “dead-man” mode if you have any of the messages marked above (with this symbol:*) shown on the display

Message	Short description:	Cause of message
I.080	Service counter will run off	
I.100	Speed in open position too high	
I.150	Speed in close position too high	
I.160	Permanent open command still active	
I.161	Priority not active	
I.170	Forced opening active	
I.180	Wait for foil key command	
I.199	Door counter wrong	
I.200	New reference position taken over	
I.201	Reference position new initialized	
I.205	Synchronisation done	
I.210	Limit switch not plausible	
I.211	Limit switch not plausible	
I.200	Reference corrected	
I.205	Reference position encoder	
I.310	Open command to door 2	
I.320	Obstacle during opening	
I.325	Obstacle during closing	
I.360	Disturbed N.C. safety edge	
I.363	Disturbed N.O. safety edge	
I.510	Correction drive finished	
I.515	Active correction drive	
I.520	Pre set speed for open or close drive not reached	
I.555	Measuring rotation factor not ready	
E.000	"NO on Keypad pressed"	☐ Stuck button or cable not connected correctly
E.050	"PO on Keypad pressed "	☐ Stuck button or cable not connected correctly
E.090	"FO on Keypad pressed "	☐ Stuck button or cable not connected correctly
E.101	"NOPC active"	☐ Permanent Stop Signal
E.102	"NOPC active "	☐ Permanent Open Signal
E.103	"NOPC active "	☐ Permanent Close Signal
E.104	"NOPC active "	☐ Lower "close" limit has made
E.105	"NOPD active "	☐ Upper "open" limit has made
E.106	"NOPD active "	☐ Photo-Cell or other safety device active
E.107	"NOPD active "	☐ Photo-Cell or other safety device active
E.108	"NOPD active "	☐ This input has been activated by connected device
E.211	"E-Stop Ext"	☐ Barrier door safety switch open*
E.360	"Safety Edge Tripped"	☐ Safety edge sensor triggered
E.501	"FOFO"	☐ Presence on safety loop "Channel 1"*
E.502	"FOFO"	☐ Presence on auto loop "Channel 2"*



Please note:gate moves only in “dead-man” mode if you have any of the messages marked above (with this symbol:*) shown on the display

Gate P991 = 0200



We have made the most common connections available without having to open the control panel cover see below for info. Please NOTE that you will have to enable the corresponding parameters to activate the inputs, as they are disabled in factory when testing the gates. The terminal block is GREEN in colour.

									
COM	Close	Open	Spare	Spare	Spare	Photocell 24V +	Photocell Output	Photocell Switch	Photocell 24V -
1	2	3	4	5	6	7	8	9	10
									

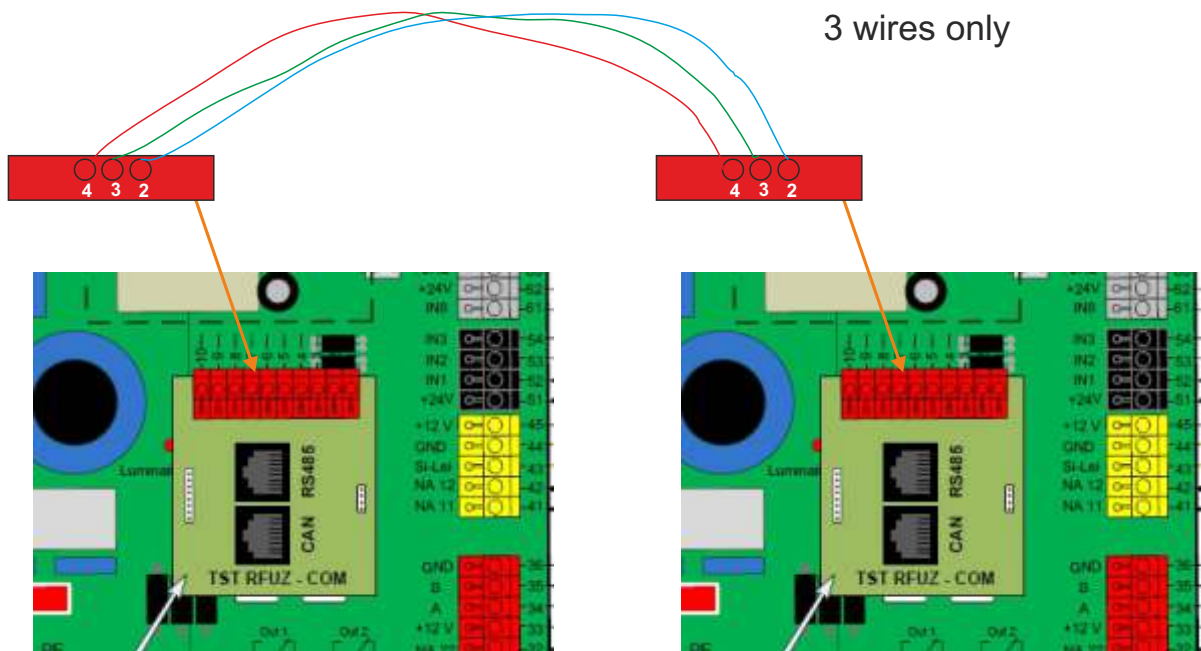
NOTE

You Must enable the following parameters:

P.507 = 0501

P.506 = 0501

Master/Slave Wiring



Normal Photocell Wiring

Master

+24 V	86	Yellow/Brown
IN7	85	Grey
GND	84	Blue
+24 V	83	Yellow/Brown
IN6	82	Grey
GND	81	Blue

Catch Post

Wire to main panel IN 7
Terminals 86/85/84

Master/Slave Photocell Wiring

Master

+24 V	86	Yellow/Brown
IN7	85	Grey
GND	84	Blue
+24 V	83	Yellow/Brown
IN6	82	Grey
GND	81	Blue

Wire in **Series** to master
Terminals 85&86 Yellow
and Grey from slave
Link between terminals
85&86 and 82&83

Wire in Series

Yellows from Slave Photocells

Greys from Slave Photocells

Slave

86	Link Out
85	85&86
84	
83	Brown
82	Link Out
81	82&83
	Blue

On Both Panels enable:
P.507=0501
P.506=0501

Every input/output is highly configurable, and can be changed from its default/state use. The below is a guide to what they can be changed to and the effect of this change. The logic behind this is as follows: On the wiring diagram each terminal has an input number this is noted as "IN6" for example. To change this or other values the table below quotes P.5x0 the "x" needs to be replaced with the input/output you wish to configure. So as an example if we wanted to change input "6" (terminals 82&83) we would replace the "x" with "6" making it "P.560". Also note that the number following "P." (in our example "5") denotes we are dealing with and "input" if instead we wanted to deal with an "output" we would replace the "5" with a "7". The below is a brief summary of common changes but there are MANY more options than listed here, for a full list please contact the supplying company.

Inputs			
Parameter	Unit Range	Function	Description/Value of Parameter
P.5x0	0 18	Input Functions	With this parameter the functionality for parameter x is set.
Notes Area...			0: Input deactivated 1: OPEN command 2: Single channel / pull switch 3: Permanent open command 4: Stop command 5: Safety B 6: Jog mode / Automatic switch 7: Close command 8: Door locking in end position 9: Cross traffic input 10: Deactivation input 11: Limit switch input 14: Safety A 15: Simulation of foil key pad 16: Safety C 17: Door drive to intermediate stop / partial open 18: External detector
P.5x2	0 1	Contact Type	Specifies the contact type of the switch which is connected to the input. 0: N.O., Normally open 1: N.C., Normally closed
P.5x4	0 7	Hold-open time / Priority	This parameter specifies if and which hold-open time / forced closing time runs after activating the input.
Notes Area...			0: Without auto close time 1: With auto close time (P.010 or P.011) 2: With minimum auto close time (P.015) 3: No auto close time until a CLOSE command is given. 4: Auto close time as used before with the last open command. 5: The auto close time is stopped after activating in end position door OPEN and will go on after deactivation. By reversing during closing the min. auto close time is running. 6: With Priority 1 (highest Priority: like PULSE OPEN) 7: With Priority 2 (second highest Priority: like pull switch)
Outputs			
P.7x0	0 27	Switching Condition of output relay	The selected output relay is energized under the following conditions:
Notes Area...			0: If End position Door OPEN was reliably detected 1: If End position Door OPEN was not reliably detected 2: If End position Door CLOSE was reliably detected 3: If End position Door CLOSE was not detected 4: If there is no fault condition or emergency stop, controller in Automatic mode 5: Courtyard light function, during every OPEN and CLOSE move with 10 turn-off delay after opening. 6: Command forwarding This setting involves additional setting under P.7xF. 7: During each OPEN and CLOSE move 8: During each OPEN and CLOSE move and during active clearing time. 9: Forward external door release (e.g., airlock operation) 10: Forward external door locking (e.g., airlock operation) 11: Magnet voltage during closing and in end position close

Continued Overleaf

Outputs

Parameter	Unit Range	Function	Description/Value of Parameter
P.7x0	0 27	Switching Condition of output relay	With this parameter the functionality for parameter x is set.
Notes Area...			12: Traffic light function This setting involves additional settings under Parameter P.7x6 to P.7xd. 14: Position forwarding This setting involves additional settings under P.7x5. 15: Output warning message from maintenance counter 16: Airlock OPEN, forwards OPEN command to second airlock door 17: Test of draw in safety device. Relay is active in Endposition Close and is used e.g. to switch of the photo eye of the draw in safety in order to test it. If this Function is used, you must use the N.O.(normally open) contact of the relay, because the relay is switched on if the Test-Mode doesn't work. 25: Test at the End-Position Door Open Relay works at the End- Position Door Open If this Function is used, you must use the N.O.(normally open) contact of the relay, because the relay is switched on if the Test-Mode doesn't work. 27: If the case temperature falls under the value adjusted with Parameter P.428
P.7x1	0 1000,0 {Seconds}	Switching behaviour of relay	This parameter is used to set the switching behavior of the relay after activation.
			0: Relay flashes at 1Hz 1-999: Turn-on duration of the relay in seconds 1000: Relay continuously turned on
P.7x2	0 999,9 {Seconds}	Turn-on delay	The relay is turned on after a time delay specified in this parameter.
P.7x3	0 999,9 {Seconds}	Turn-off delay	The relay is turned off after a time delay specified in this parameter.
P.7x4	0 1	Contact type	0: Normally Open 1: Normally Closed

Reminder of how to enter/exit and navigate menus:

1.

2.

3.

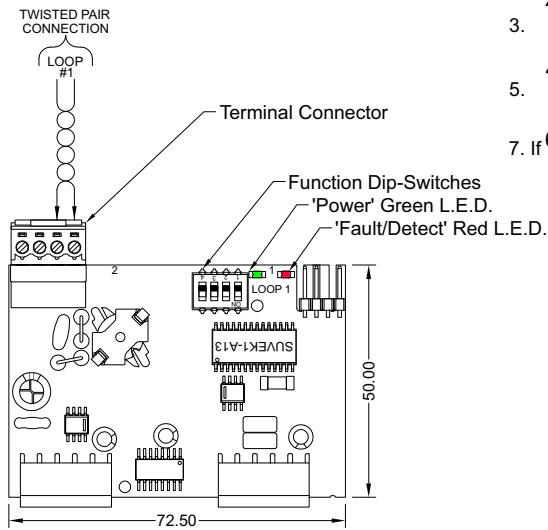
4.

1. Enter menu by pressing "stop" and "up" together
3. Press "stop" key to view parameter currently shown on display

2. Use "up" and "down" arrows to scroll through parameters
4. LED dot flashes when changes are un-saved - press and hold stop to save changes you have made

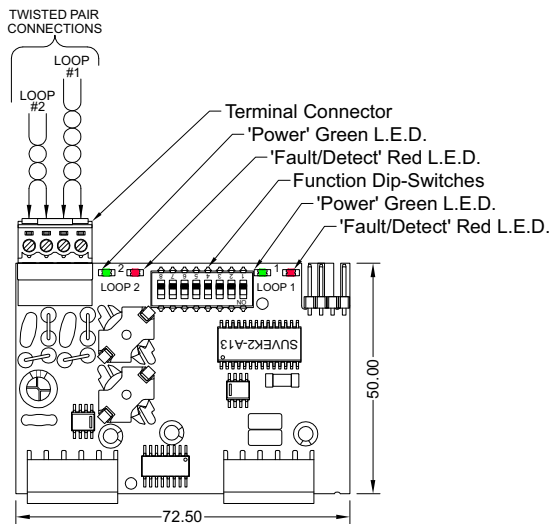
1 CHANNEL LOOP DETECTOR LAYOUT

Stock Code: TST-SUVEK1

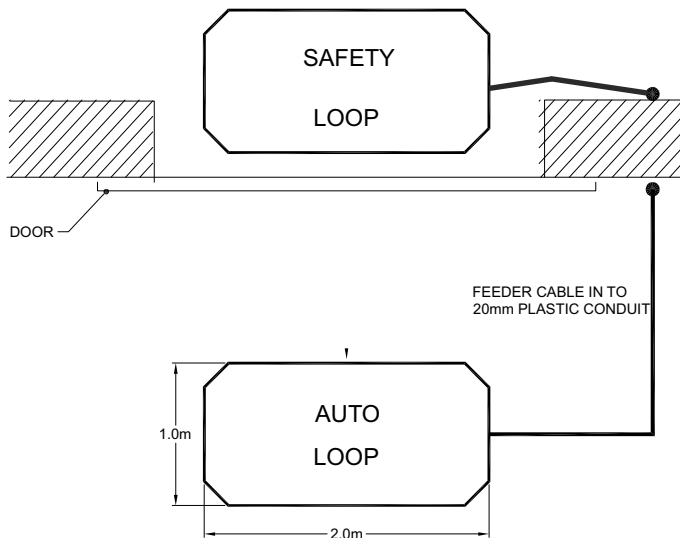


2 CHANNEL LOOP DETECTOR LAYOUT

Stock Code: TST-SUVEK2



TYPICAL EXAMPLE OF LOOP INSTALLATION



TO ENABLE LOOP WHEN PLUGGED INTO PANEL P.802-0302

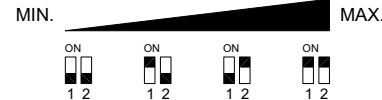
OPERATING INSTRUCTIONS

1. Turn OFF power to the control panel.
2. Plug the loop detector module into the pins provided on the motherboard of the control panel.
3. Adjust the function Dip-Switches on the loop detector card as required. Please refer to Dip-Switch Function Settings.
4. Turn ON power to the control panel.
5. The green 'Power' L.E.D. will flash continuously until the loop is tuned. Once tuned, the green 'Power' L.E.D. will illuminate constantly.
6. If a loop is faulty/not connected properly the red 'Fault/Detect' L.E.D. will illuminate constantly.
7. If a loop is covered the red 'Fault/Detect' L.E.D. and the green 'Power' L.E.D. will illuminate together.

DIP-SWITCH FUNCTION SETTINGS

Loop 1:

DIP-Switches 1 & 2:- Sensitivity (4 Steps)



DIP-Switch 3:- Holding Time (5 mins - Infinity)



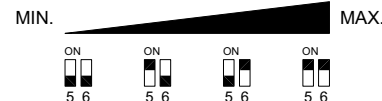
Note:- Loop will recalibrate after 5 minutes constant detection

DIP-Switch 4:- Frequency (High/Low)



Loop 2:

DIP-Switches 5 & 6:- Sensitivity (4 Steps)



DIP-Switch 7:- Holding Time (5 mins - Infinity)



Note:- Loop will recalibrate after 5 minutes constant detection

DIP-Switch 8:- Frequency (High/Low)



INSTALLING A LOOP

LOOP CABLE: Rubberised insulated wire of 0.75-1.50 sq.mm (awg 20 - awg 16), preferably multi-stranded.

LOOP SIZE: **Note:-** High bed vehicles require larger loops.

No. OF TURNS IN LOOP:

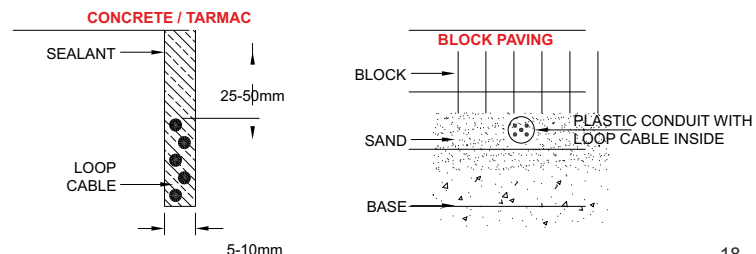
LOOP CIRCUMFERENCE	NUMBER OF TURNS
2 - 4m	6
4 - 7m	5
7 - 12m	4
12 - 25m	3

LOOP SLOT: Recommended depth to top of loop cable 25-50mm. (Maximum depth 65mm) Loop slot **MUST** be sealed after cable has been installed and tested. Use a flexible, weather proof sealant (i.e. Hot bitumen, Rubberised bitumen sealant). **CAUTION!** Never use cement / concrete, etc...

FEEDER CABLE: The feeder cable **MUST** be twisted a minimum 10 times per meter & can be up to 250m long.

LOOP PLACEMENT: The loop must be placed at least 5m away from high tension cables and at least 1m away from low tension cables. If the loop is placed in an area with reinforcing iron (typically a concrete floor), the loop must be placed at least 50mm above the reinforcement.

TWO or MORE LOOPS: If the detector is used for detecting high vehicles (lorries etc.) use only one loop for each detector, otherwise it is possible to connect two loops to a single detector. Series coupling the loops will give the largest sensitivity, parallel coupling gives the fastest reaction.

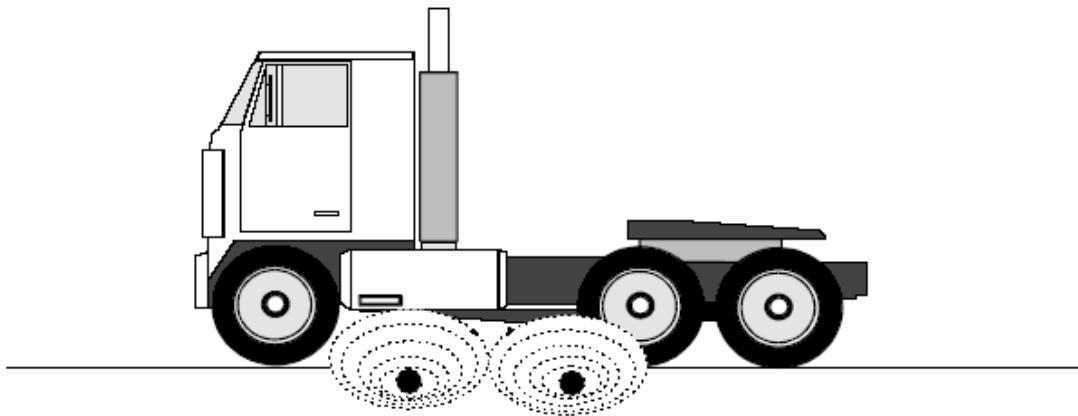


4 PRINCIPLE OF OPERATION

The inductive loop vehicle detector senses the presence of a vehicle over an area defined by a loop of two or more turns of wire, laid under the road or pavement surface. This loop of wire is connected to the detector by a twisted pair of wires called a loop feeder.

A vehicle passing over a sensing loop causes a small reduction in the inductance of the loop, which is sensed by the detector. The sensitivity of the detector is adjustable to accommodate a wide range of vehicle types as well as different loop and feeder combinations.

Upon detection of a vehicle passing over the loop the detector operates its output relays, which may be used to indicate controls associated with the installation.



4.1 Detector Tuning

Tuning of the detector is fully automatic. When power is applied to the detector upon installation of the system, or when a reset is initiated, the detector will automatically tune itself to the loop to which it is connected. The detector will tune to any loop with an inductance in the range 20 to 1500 microhenries (μH).

This wide range ensures that all loop sizes and feeder combinations will be accommodated in the tuning range of the detector.

Once tuned, any slow environmental change in loop inductance is fed to a compensating circuit within the detector, which keeps the detector correctly tuned.

4.2 Detector Sensitivity

Sensitivity of the detection systems dependent on factors such as loop size, number of turns in the loop, feeder length and the presence of metal reinforcing beneath the loop.

The nature of the application determines the required sensitivity, which may be adjusted by means of the sensitivity switches on the front of the enclosure.

Sensitivity levels of the PDI30 have been carefully optimised for parking and vehicle access control applications. The detection of small unwanted objects such as bicycles and trolleys can be eliminated by selecting lower sensitivity levels whilst high-bed vehicles and vehicle/trailer combinations will not lose detection by using **A**utomatic **S**ensitivity **B**oost (ASB) option.

ASB operates as follows. When ASB is disabled, the undetect level is dependent on the sensitivity setting of the detector. Hence as the detector is made less sensitive, the undetect level will reduce accordingly. When the ASB is enabled, the undetect level will always be the same irrespective of the sensitivity setting and will be equivalent to the undetect level when the sensitivity is on maximum setting.

ELECTRICAL ERRORS	CAUSE	CORRECTION
Blank screen on Panel but power to other devices in the control panel	Door switch circuit not making	Press door switch in and check Panel screen
	Panel has developed an electrical fault or had a power spike or blown on board fuses	Change fuses or panel MAKE SURE that the panel is run through a MCB 14 amp breaker
gate does not run (stays open)	Check panel is showing no F Codes or E codes	Power down then back up press and hold "stop" key to reset
	Loop detector is faulting or sensing presence	Clear obstacle or reset the detector
	Check panel settings have not been altered	Set P.990=1 then P.991=0101
	gate staying up in raise position	Access control giving a constant pulse shorten this
	Photo cell batteries (if fitted)	Check that the fitted batteries still have power to them. They should only be replaced with special 3.6V Lithium-ion batteries made for purpose. These can be provided by your supplier
	Photo cells dirty (if fitted)	Clean photo cells make sure they are debris free
Mains on but no power	Isolator fuse	Check and meter fuse in isolator
gate not going up	Access control may be faulty	Remove and check gate function via the Panel buttons
gate Staying up	Car has driven off before clearing the loop panel is configured without "no passage" timer.	Complete cycle by going through the ground loop
"E.21" displaying on screen	gate door is open	Close door or check switch for faults
gate staying open and not closing	If photo-cells fitted then batteries may have expired	Check and if needed replace batteries
	Faulty loop detector	Check & set or replace faulty unit
	gate does not have loops fitted or these have been removed	Call the technical department for assistance the program/wiring needs to change
	Key switch left in open position	Put the switch back into the "Auto" position
	Permanent supply/signal to the raise terminals	Check wiring to terminal blocks remove any access control try again
	gate programmed for safety only or gate is on a timer	Contact your supplier for a program modification chip

MECHANICAL ERRORS	CAUSE	CORRECTION
Gate not Moving	Motor brake locked on	Check brake is releasing
Gate creaking when moving	Gate alignment	Check and align gate correctly
Gate motor not running	Loss of voltage	Check motor supply test 3 phases
Gate not moving or closing	Drive shaft connections	Re-connect any drive shaft connections
Gate not moving or moving half way	Gearbox or gate track damaged	Gears/Track stripped due to overlading replace
Gate crashes into catch post	Cantilever arm not adjusted correctly	Adjust and check alignment
Gate not running at all	Door has been left open or switch not making	Close the door and check display is not reading e.211
Gate open and will not close	Key switch is left in open position	Turn key switch to auto if fitted
	Loop fault or loop detecting	Check if green light is on detector if so remove object that it is detecting or replace loop

Potential System Hazard Areas

PF9000 A
PF9000 M

Please note these are things that you should look out for with the equipment that has been installed on your/your customers site. This is in no way a health and safety guide just a few key areas for you to be aware of and possibly make future changes to.

Plan view (from above)
Sketch system layout, detailing and numbering potential hazard areas for the client.

Potential Hazard Areas - see diagram:

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....

Additional Comments / Descriptions concerning safety on this site

.....
.....
.....
.....
.....

.....Signed:.....

Section 1. What type of Gate do you require?

PF9000M Manual Sliding Gate

☐

PF9000A Automatic Sliding Gate

☐

Section 2a. Additional Information

Additional Information for our records

What is the span of the clear opening?

Gate length = mm

PF Quote Reference

Your Order Number

Customer Contact No.

Colour code required:
(please specify RAL or BS Colour Below)

Height of Gate required

Spikes Required? (yes or no)

Type of Infill Required:

Today's Date:

Required Delivery Date:

If more than one Gate
how are they operating?

Master/Slave

☐

Independent

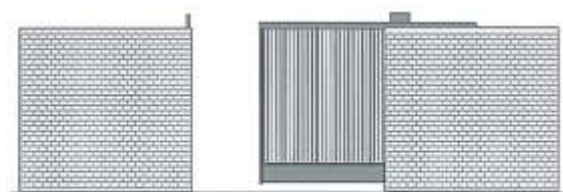
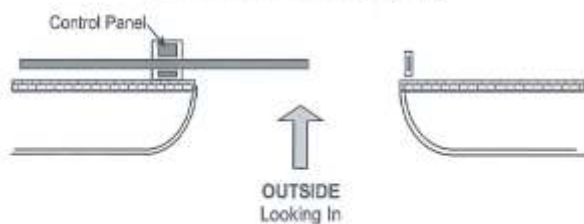
☐

Section 3. Gate Handing Choice



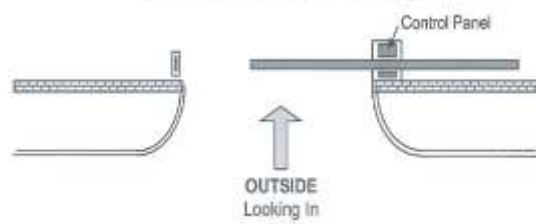
LEFT HANDED GATE

Viewed from outside, the main gate housing is located on the LEFT HAND SIDE of the opening



RIGHT HANDED GATE

Viewed from outside, the main gate housing is located on the RIGHT HAND SIDE of the opening



I require a LEFT handed gate shown above ☐

I require a RIGHT handed gate shown above ☐

Section 4. Accessories Required

☐ UPS Battery back-up used for panel protection and gate can open/close automatically after power loss. **HIGHLY RECOMMENDED!**

Section 5.a Delivery or Install Address

☐ PF to install equipment

☐ PF to supply only

Section 5.b Additional Information (Use a separate sheet if necessary)

Installation/Commissioning Check List

PF9000 A
PF9000 M

System Operation - The user FULLY understands	YES	NO
How to operate the system with all control devices	☐	☐
How to isolate the power to the automation system	☐	☐
How to manually release the system in event of power failure	☐	☐
The safety rules and issues associated with your system	☐	☐
Safety devices on the system have been verified and checked	☐	☐
Safety devices and features suit the site/application for which it was designed	☐	☐
How to open the door on the equipment	☐	☐
Check the following items	YES	NO
Door keys have been handed over	☐	☐
Key switch keys have been handed over	☐	☐
All equipment and site has been left in a clean and safe state	☐	☐
Any warning signage has been fitted by Engineer/Client to make people aware	☐	☐
Any times and special programming instructions undertaken	☐	☐
Product works the way site need it to this includes "no passage time out" etc	☐	☐
System has had the completed conformity certificate	☐	☐
All items on the delivery note have been handed over to client/site - this should be signed for on the separate sheet which is titled "Delivery Note" (green/ or yellow paper) if parts missing call supplier	☐	☐
The engineer has expressed the importance of regularly maintaining the equipment	☐	☐
POWER ISOLATION - The power isolator for your automation system is located at:		



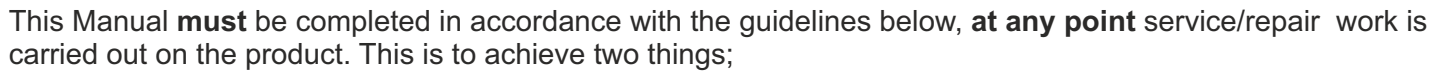
The following denotes that the above has been completed to a satisfactory standard. The engineer has explained the system of operation to you and any devices that you have had fitted. If this is agreed and has been displayed please sign in the indicated fields below. All information will be passed on correctly to other system users. The users of the system will use this system correctly and safely.

Engineers Name:

Engineers Signature:

Clients Name:

Clients Signature:



- [illegible]

Commissioning Certificate

PF9000 A
PF9000 M

We certify that the system covered by this certificate has been commissioned satisfactorily.

Contract Reference		Completion	
Contract Title		Engineers Installing	
Installation Commenced	/ /20	Commissioning	
Works Description			
Part/Whole Certificate			
Handover Date			

Part 3. The system(s) designed and installed in accordance with the following documents:

Document Ref:	Revision	Description
PF9000A/M	5.0	System guides and drawings as defined within O&M Manuals

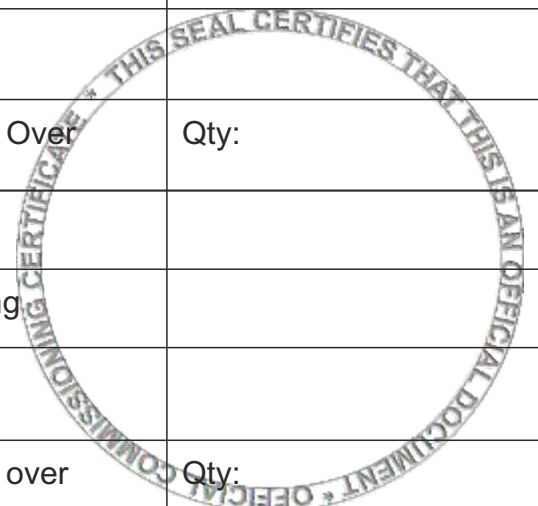
Part 4. The following test procedures refer:

Check Lists (pages 15 & 16) /Commissioning Certificate

Part 5. Existing Installation Items not covered under warranty/ This certificate:

Part 6. Certificate Signing off Section

Installers Name		Signature	
On Behalf of		Date of Signing	
Address		Position	
		Parts Handed Over	Qty:
Client Name		Signature	
On Behalf of		Date of Signing	
Address		Position	
		Parts Handed over	Qty:





Declaration of Incorporation

We hereby certify that the machinery stipulated below complies with all relevant provisions of the EC Machinery Directive and National Laws and Regulations adopting this Directive.

Manufacturer & European Agent:	PF Ltd Unit 1 Kingsbury Link Industrial Estate Trinity Road Tamworth Staffs B78 2EX United Kingdom
Telephone:	01827 870 250
Description:	Automatic Cantilever Sliding Gate
Model Number:	PF9000A
Serial Number:	
EU Directives & Standards Applied:	The above product is in conformity with the essential Health and Safety requirements of the Machinery Directive 2006/42/EC and the following transposed harmonised standards, BS EN 292 Parts 1 & 2:1991, BS EN 60204 Part 1:1993, BS EN 294:1992, BS EN 249:1993, BS EN 418:1992, and BSEN13241-1 including other standards BS EN 12445:2008, BS EN 12453:2008.

Responsible Person:

Damian Speer
PF Ltd

Name:

Anthony Green

Signature:

Position:

Managing Director

Date:

2nd November 2010



EG-Baumusterprüfbescheinigung

EC type-examination certificate

Registrier-Nr.

Registration No.

44 205 10 384294

Zeichen des Auftraggebers
Customer's reference

Auftragsdatum
Date of order
29.06.2010

Aktenzeichen
File reference
8000384294

Prüfbericht Nr.
Test report no.
10 205 384294-001

Name und Anschrift
des Auftraggebers

FEIG ELECTRONIC GmbH
Lange Straße 4
35781 Weilburg – Waldhausen

Customer's name
and address

Erfüllt mit dem u. g. Produkt die Anforderungen des Anhangs I der Maschinenrichtlinie 2006/42/EG
als eine Grundlage für die EG -Konformitätserklärung.

The product described below meets the requirements of annex I of the directive 2006/42/EC
as a basis for the EC - declaration of conformity.

Geprüft nach

Maschinenrichtlinie 2006/42/EG
Machinery Directive 2006/42/EC

Tested in accordance with

EN 12453:2000

Abschnitt 5.2 / Chapter 5.2

EN ISO 13849-1:2008

Anforderungen an Performance Level d
Requirements according to Performance Level d

EN 62061:2005

Anforderungen an SIL1
Requirements according to SIL1

EN 60335-1:2002

+A1:2004

A11:2004

+A2:2006

+A12:2006

EN 60335-2-103:2004

Beschreibung des
Produktes
(Details siehe Anlage 1)

Sicherheitsbauteilart / Type description safety component
Torantriebssteuerung / Door control unit

Description of product
(Details see Annex 1)

Typenbezeichnung

Type / type TST FUZ

Type Description

Bemerkung

Bitte beachten Sie auch die umseitigen Hinweise
Please also pay attention to the information stated overleaf

Remark

TÜV NORD CERT GmbH
Zertifizierungsstelle / Certification body
Maschinen / Machinery
Benannte Stelle 0044 / Notified Body 0044

Gültig bis / Valid to: 24.09.2015

Ralf Laborenz

Hannover, 24.09.2010

CE EUROPEAN MARK CERTIFYING CONFORMITY
TO THE ESSENTIAL REQUIREMENTS OF THE
STANDARDS 98/37/EC

Proudly Made
in the UK



Made using
recycled
paper



2003/108/CE Directive
for waste electrical and
electronic Equipments

DISPOSE OF PROPERLY
ENVIRONMENT - NOXIOUS MATERIALS