

VG OSG

Operation and Installation Manual

Version 3.0



Serving the lift industry since 1996
Operation and Installation Manual

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Contents

Overview	4
Safety Notes	5
Owners obligations	6
Specification	7
General Description	7
Brake Mechanism	7
Governor Features	8
Governor Functions	9
Governor Pull-Through Forces	10
VG OSG Control Box (VGOSG-CB01)	10
Signals	11
Handling, Transport and Storage	11
Components Supplied	12
Optional Installation Pack	12
VG Test Facility.....	12
RIG Instrumentation	13
RIG Operation	14
Analysis Of Results.....	15
CE Plate	16
Installation	16
General Advice	16
The Control Box VGOSG-CB01A	16
Wiring	17
Wiring Diagram.....	20

Contents

Connection Overview	21
Door Contact Wiring Options (12v Circuit)	22
Mechanical Installation	23
VG OSG Dimensions.....	24
VG OSG Operational Flowchart	25
Normal Operation	26
Resetting The System.....	26
By-Passing The System	27
Test Deployment Of The VG OSG	27
Instructions For Rescue Operations/Hand Winding	28
Regular Maintenance.....	29
Maintenance Instructions.....	30
1. Controller (VGOSG-CB01A)	30
2. Governor (VG OSG).....	30
3. Operational Checks.....	30
Definitions.....	31

Overview

The VG Overspeed Governor (VG OSG) is designed to be installed with new lifts and retro fitted to existing passenger and goods lifts and when used in conjunction with other VG Safety products such as the VG Safety Gear and or the VG Rope Brake will provide a complete solution to the requirements of EN81-20/50:2014. It can also be used with other "CE" marked safety products, but the responsibility lies with the lift designer to ensure correct operation.

The VG OSG connects to the main lift control panel via its own specific control box (VG OSG – CB01). From here it can receive power and signals to tell if the lift doors are open, the state of the main motor contactor and the condition of the main safety circuit. It also sends signals to the lift, warning the lift controller if the lift speed reaches 110% above the normal running speed (Alert Signal) and will operate the "CE" marked braking means in the event of overspeed or unintended car movement.

The system will always deploy immediately and interrupt the main lift safety circuit, if overspeed is signalled, unintended car movement away from the landing with the landing door not in the locked position and the car door not in the closed position or if the emergency stop button on the front of the control panel (VGOSG-CB01) is pressed.

The governor incorporates a bi-directional drop-jaw mechanism which is monitored by state of the art electronic sensors and operates by releasing a 12V dc electro-magnet in the event that either overspeed or unintended car movement is detected, or the emergency stop button pressed.

When either overspeed or excessive unintended movement is detected the governor will be activated which in turn will deploy the brakes under its control and in addition to this an emergency stop signal will be sent to the main lift control panel, by means of interrupting the main safety circuit.

There are other functions included as standard with the system such as: indication of status to assist with fault finding, remote reset and the ability to bypass the Unintended Movement monitoring but still maintaining overspeed detection. Other functions allow for a Test speed of 0.63m/s mechanical trip and 0.63m/s electrical trip (or trip speed if this is lower) to be selected and a hand-winding function which will lower the overspeed trip to 0.3m/s.

Power loss is catered for by the incorporation of an internal battery back-up system to seamlessly switch from mains power to battery and back again without the need for manual intervention to reset the VG OSG. But if during the power loss excessive movement occurs, or that the over speed governor trips, a full reset will be required but this is done using a key switch mounted on the front face of the VGOSG – CB01A control box.

If during its normal operation the system develops a fault then an error or alert signal will be sent requesting the lift stops at the next floor and when the doors opened the VG OSG will activate until the fault can be rectified by a competent person.

Safety Notes



Both employers and employees have a duty of care in relation to the health and safety of people or property which may be affected by their actions, or failure to act. Therefore, building owners, or those who have responsibility for controlling buildings are required under the Management of Health and Safety at Work Regulations to ensure that their premises are safe and free from risk to health so far as is practicable. This includes access to the plant equipment and articles or substances used and in this particular respect will be relevant to the Workplace (Health, Safety and Welfare) Regulations.

Installation, commissioning and maintenance of this system should only be carried out by authorised persons who have received the necessary instruction, because it is dangerous for any other persons to attempt to do so.

Any failure to take adequate precautions may render the authorised person guilty of negligence should an accident occur.

It is essential that a "Competent Person" has installed and commissioned this system. It is also essential that a "Competent Person" maintain this system in a safe manner and at regular intervals.

The "Competent Person" must have had adequate training in theory and practice together with experience of the equipment in question; to enable a true assessment of its condition for continued safe operation.

No alterations, modifications or repairs to this system or its components should be undertaken without the written consent and advice or instruction of the supplier Atwell International. Any advice or instructions from the supplier must be followed; any deviation may risk the safe operation of the lift. Even if consent is given then all the risks associated with the work will have to be suitably and sufficiently assessed by the owner before these alterations are implemented.

No replacement parts other than those specified or supplied by the supplier Atwell International should be used as incompatible parts may risk the safe operation of the lift. Genuine spares are available within 24 hours at a reasonable cost. But if spares are needed quicker than exact same or equivalent parts may be sourced locally once the exact specification of those parts has been obtained and you have suitably assessed the implications of using non-standard parts. If there is any doubt then you should render the lift out of service and contact Atwell International or one of its appointed agents for assistance.

Owner Obligations

The Owner of the Lift or any delegated party shall inform the Maintenance Company immediately:

- a) about any detected abnormal functioning of the installation;
- b) before any modification work on the installation;
- c) about any modification of any equipment or condition related to the installation which existed at the time of the original installation;



In the case of suspected or actual dangerous situations, the installation shall be put out of service immediately.

We strongly advise that you should carry out a Risk Assessment to determine, as completely as possible, the different intervention procedures of the maintenance operations and to associate appropriate safety measures with each of these procedures.



This Warning Label is incorporated into the control box lid graphic to warn you of Live Electrical Parts, DO NOT REMOVE the lid if you are not a competent electrician capable of safely assessing the potentially dangerous internal connections.

Specification

General Descriptions

A modern digital governor and tension weight to complement and integrate with the VG range of safety gears and the VG rope brake.

The governor incorporates a drop-jaw mechanism which produces the same operating force in both “up” and “down” directions. This can be varied to suit the application.

The governor has an integral electric actuator to reset the governor remotely.

The governor can have an independent pulse encoder fitted for integrating with lift control systems.

The digital control system permits a wide range of speeds to be selected with a superior accuracy over mechanical systems. The control system has a programmable feature for monitoring any form of uncontrolled lift movement

Brake Mechanism

Please refer to drawing “VG OSG General Overview – fig 8 pg 21” which illustrate the mechanical assembly and the “Scott – Russell” linkage respectively.

The drop weight CDS1703 is pivoted on one end of links CDS01708 and pivoted jaw CDS01716 at the other end. One end of short links CDS01707 are pivoted at the centre of the long links and the other ends are anchored to the side plates of the governor.

The drop weight is held in the disengaged position by a small dc magnet which is released when an over-speed is detected. As the weight drops the pivoted jaw is constrained to move horizontally and trap the governor rope against spring loaded jaw CDS01713. The weight continues to drop until the long link is horizontal.

The force generated by the governor is controlled by:-

- 1) The force exerted by springs in the fixed jaw
- 2) The profile of the governor jaws

The standard governor has a nominal braking force of 500 Newtons in both “up” and “down” directions. This is generated by four compression springs CDS01722 and a 50% undercut “U” grooves in the gripping jaws. The braking force can be increased by inserting two additional springs in the assembly and/or increasing the width of the groove undercut.

Unlike friction governors, the mass of the tension weight and the governor rope has no influence on the braking force. However, the weight requires a positive lock-down feature to resist a pull in the “up” direction equal to the governor rated force and be bolted to the pit floor or other steelwork.

The modular tension weight is shown in drawing “VG TW – fig 9 pg 21”. It consists of a pulley assembly fitted with two sprung ratchets which engage with a ratchet bar suspended from the tension weight frame. At least one ratchet is engaged at all times to prevent the pulley from being lifted more than 10 mm. The tension weight can have additional weights added to the pulley when used with friction type governors. Other Tension Weights can be used as long as they are fitted with a suitable lock-down feature.

To reset the governor, the drop weight is raised to its release position by an electric actuator CDS01740. This is mounted adjacent to the drop weight and operates against a sprung stop bolted to the drop weight. The linear actuator is fitted with a potentiometer to verify that it is fully retracted before the governor is placed back in service.

Governor Features

The governor has the linear actuator as standard for remote re-setting. This resets the governor each time power is connected and following actuation of the governor by either an over-speed or by the UMD control. The actuator is powered by 12 volts dc to enable the governor to function under battery back-up.

The governor is to have a plug in facility to interrogate the control system without the need to gain access to the control box itself. This will be made available only to restricted personnel for verifying speed settings etc.

The resetting of the governor is to be via a separate control box (VGOSG CB01A) remote from the governor. This control box is fitted with a battery back-up as standard.

The main control box on the governor has limited external displays, ie

- a) Reset Mode Enabled
- b) Set OK
- c) Warning / Fault Detected
- d) Overspeed Detected
- e) Unintended Movement Detected
- f) Doors Closed
- g) Motor Running

The status of the governor is verified by micro-switches actuated by the 12 mm rod extending from the drop weight. Switches are provided for both the "engaged" and "released" conditions. These switches, in conjunction with the governor control system can be used to relay the state of the governor to the lift control system.

The governor can be fitted with a "safety" switch in accordance with EN81 as an optional extra. This will be actuated by the handle on the reverse side of the governor.

Governor Functions

The governor has two distinct control functions:-

- a) To monitor lift for over-speed
- b) To monitor any form of unintended movement when the lift is stationary.
This can be monitored for either speed or displacement.

Lift Over-speed:

The lift speed is monitored at all times. The governor has two speed settings:-

1. A signal alert is sent to the lift controller when the speed of the lift exceeds the rated speed of the lift by more than 10%. The lift control system should then prevent the setting in motion of the machine or initiate immediately its stopping.
2. The governor brake will be deployed if the lift speed exceeds the rated speed by more than 20%. The maximum permitted velocity before the governor is tripped, is given in EN81 as $1.25v + 0.25/v$. This is considered unnecessarily high with systems with accurate speed monitoring. However, as this is programmable, then any figure in increments of 0.05m/s up to the maximum can be selected.

Unintended Movement Detection (UMD):

Lifts shall be provided with a means to stop unintended car movement away from the landing with the landing door not in the locked position and the car door not in the closed position, as a result of failure in any single component of the lift machine or drive system upon which the safe movement of the lift depends, except failure of the suspension ropes or chains and the traction sheave or drum or sprockets of the machine

The UMD will be triggered when one of the following conditions is exceeded:-

1. The lift moves a pre-set maximum distance from the landing. This can be varied from 24mm to 360 mm.
2. The lift velocity exceeds the maximum rated speed of the lift
3. The lift velocity exceeds a pre-set lower value than the rated lift speed

The VG over-speed governor has integrated the established and certified circuitry of the unintended movement detection system used with the VG rope brake. However, the circuitry has been upgraded to comply with the requirements of annex F of EN81-20/50:2014.

Governor Pull-Through Forces

The governor has a brake actuated by the falling of the “drop weight”. This traps the governor rope between a pivoted jaw and a spring loaded jaw. Both jaws are case hardened and have undercut semi-circular groove profiles.

The brake incorporates the same underlying technology used in the VG rope brake where braking force is dependent on the spring force and groove profile. The standard governor has a minimum braking force of 500 Newton’s in both directions based on 4 compression springs and a 50% undercut groove.

The braking force can be increased to over a 1000 Newton’s by fitting 6 springs and increasing the undercut to 75%. As part of the documentation of the governor, the actual pull through force will be recorded on the CE plate.

VG OSG Control Box (VGOSG-CB01A)

The controller will be enclosed in a plastic enclosure suitably rated for the lift control room. It is approximately 289mm long x 239mm tall x 108mm deep.

With the exception of replacing the battery every 3 years it does not require any maintenance, other than periodical testing and inspection in accordance with your site risk assessment and the lift regulations.

It contains safety relays, visual and audible indicators, wiring connectors, emergency stop button, key switches, battery, power supply and fuses.

The VGOSG-CB01 controller has been designed and constructed to comply with all current CE requirements, i.e. EMC, Low Voltage, RoHS, WEEE and more specifically to meet the requirements of EN 81-1:1998+A3:2009.

Indication of the system status will be provided by LED’s i.e.

- a) Reset Mode Enabled,
- c) Set OK
- d) Warning / Fault Detected
- e) Overspeed Detected
- f) Unintended Movement Detected
- g) Doors Closed
- h) Motor Running

The VGOSG-CB01 has two switches and one push button, one is an emergency stop button, when this is pressed the VG OSG will be immediately deployed. The key switches require a key to operate them; this is because regulations require a competent person to reset the VG OSG in the event of a deployment or the need to carry out hand winding operations. So to prevent any unauthorised tampering or resetting or bypassing of the system a key is used. We supply 2 sets of keys per system (4 keys in total); these should only be made available to competent persons. One key switch will allow the remote reset of the VG OSG (any VG rope brakes or VG safety gears are set in the normal way) and also to bypass the unintended movement detection during maintenance. Please note that overspeed detection will always remain in operation.

An audible alarm is included within the VGOSG-CB01 controller; this will beep when in the bypass mode.

The other key switch is to activate either the Test or Hand-winding functions.

Signals

Controller input power supply will be 230V or 110V AC 50/60Hz, it has an internal 12v DC control voltage, power supply and battery backup.

The system requires the following signals and connection to the external contacts to enable it to operate.

1. Live Supply
2. Neutral Supply
3. Earth
4. A Door Open / Closed Input signal
5. A Main Motor Contactor Open / Closed Signal
6. Main Lift Safety Circuit Output Signal
7. Main Lift Alert/Warning Output Signal
8. Optional hand winding contact
9. Optional test control contact

Handling, Transport And Storage

The components of this system have been carefully packaged for shipping, including strapping and strong tape. If you use a knife to cut open the boxes, please be very careful to ensure that you only cut through the tape and straps and not through the cardboard potentially damaging the components inside.

Please inspect the components of this system thoroughly prior to attempting to install it. If any of the components has been or suspected to have been damaged or exposed to moisture, they should not be used. Please return them to Atwell International for examination and re-test.

The VG OSG and the VGOSG-CB01 should never be lifted or carried by their cables. They should never be allowed to get wet or exposed to moisture.

Components Supplied

Please check that the following parts have been supplied and received in good order prior to attempting to install the system.

- Governor (VG OSG).
- Control Box (VGOSG-CB01A).
- Control Box fixings (4 x wall plugs and 4 x screws).
- Spare fuses. (3 types 1 of each)
- Manual & Documentation pack.
- 4 keys.

Optional Installation Pack

An installation pack is also available from Atwell International but is not included as standard. This pack includes:

- 10mtrs of 18 core CY/SY Cable
- 5mtrs of 8 core screen cable
- 5mtrs of 3 core Tri-Rated 1.5mm² cable
- 15mtrs of 20mm plastic flexible conduit
- 4x 20mm Conduit Glands
- 10 x 20mm conduit clips
- 1 x MCB
- 2 x Slave Relays
- 4 x M8 Bolts

VG Test Facility

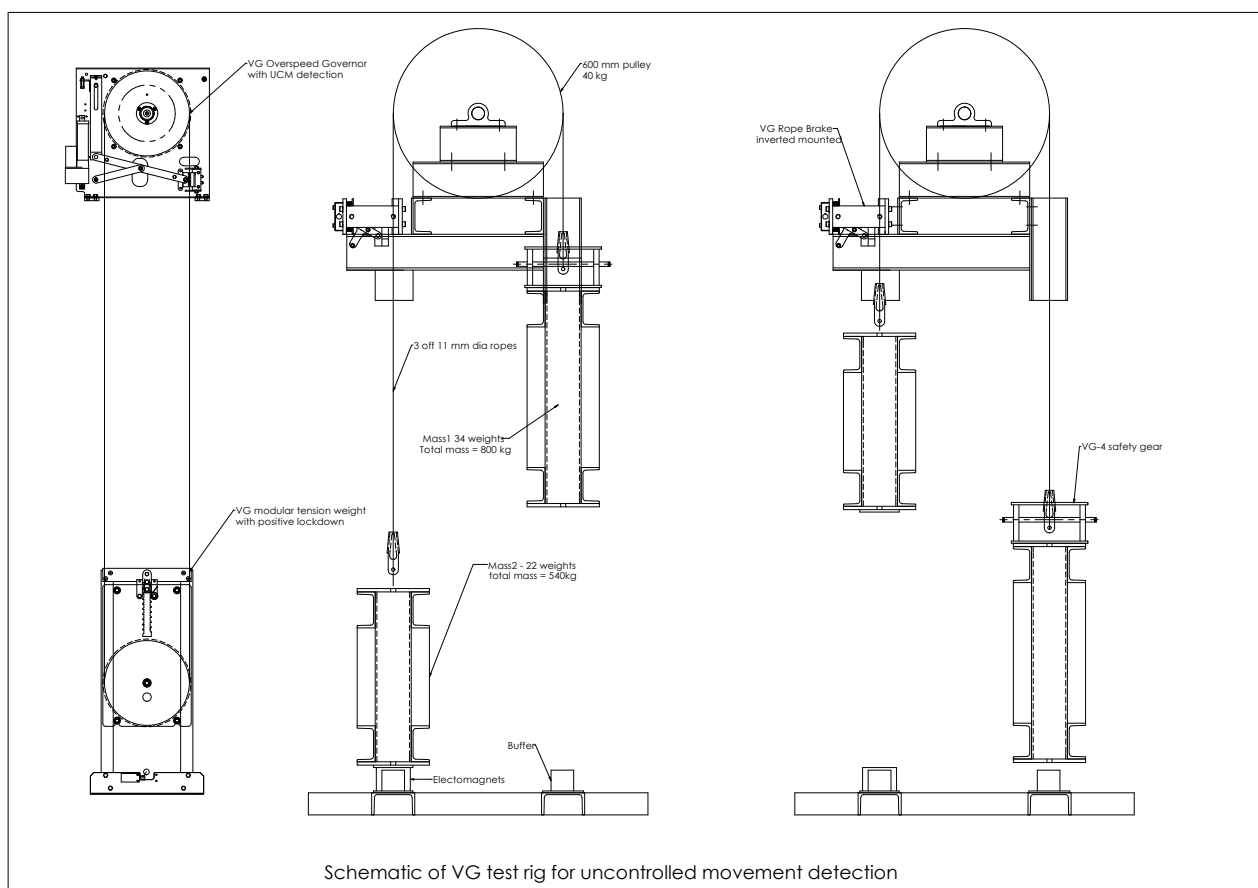
To assess the integration of the “detection” means (the VG Governor) with prevention means (either the VG safety gears or the VG rope brake) a full-scale test rig has been designed and manufactured. This is illustrated in figure one.

The rig simulates 630 kg lift with an empty lift car weighing 540 kg and a counterweight weighing 850 kg. A pair of VG-4 safety gears is mounted on top of the counterweight and an inverted VG rope brake mounted to brake the lift car in the up direction. The overall travel has been restricted to 900 mm to comply with the requirements of EN81.

N.B. While the test rig is based on a small capacity lift, the dynamic profile is representative of all “one to one” roped traction lifts. On bigger lifts, with greater OBL’s and well masses, the general dynamic profile will be similar to that produced by the test rig. Larger lifts would, of course, be fitted with appropriately rated VG rope brakes and VG safety gears.

The rig is controlled by a single VG governor and tension weight. The rig can be set to trigger either:-

- a) The governor plus VG safety gear or
- b) The governor plus VG rope brake.



RIG Instrumentation

The test rig is fitted with a pulse encoder mounted from “the lift car” and running on the guide rails. The encoder and a 16 channel data logger is then connected to a computer to measure and record the information required in section F.8.3 of EN81:-

- 1) The individual response times of different phases of the OSG and UCM detection system.
- 2) The overall time of the test
- 3) The average acceleration
- 4) The velocity increase after the governor has been tripped
- 5) The time to decelerate.

In addition, absolute measurements of the total travel and the slide distance through the rope brake will be taken. These results are then used to derive the salient points indicated in Figure F.2 of the code. A dynamic profile of a typical test is illustrated in Figure 2.

RIG Operation

The rig is initiated by the release of an electromagnet under the smallest mass which represents the "empty lift car". The masses will then accelerate with a "natural" value expressed by the equation:-

$$\text{Acceleration} = g_n(\text{mass1}-\text{mass2})/(\text{mass1} + \text{mass2}+\text{mass3})\dots\dots\dots 1$$

Where g_n = gravitational constant = 9.81 m/sec²

mass1 = heaviest mass (either full car or counterweight with empty car)

mass2 = lightest mass

mass3 = equivalent mass of diverter pulleys, traction pulley, ropes etc

NB The highest acceleration on any lift system will occur with an empty car and is the reason why the rig has been prepared in this format. Based on the above equation, the "counterweight mass" will descend at around 1.8 m/sec².

The rig is fitted with a VG rope brake in an "inverted" configuration as this is considered to be the worst case. The rope brake has been configured using the application programme which forms part of its CE documentation. The brake can be made inoperative if testing of the safety gear and governor is required.

The rig has a VG-4 safety gear mounted on top of the heaviest mass which represents the "counterweight". This is actuated by the OSG positioned between the two masses. When testing the VG rope brake, the governor drop weight is prevented from fully releasing.

The dynamic profile of the test rig has been appended to the VG rope brake application programme. A printout of the programme is appended for reference purposes. This amended programme will be used for all future applications using the overspeed governor.

The individually measured response times, as required by section F.8.3, are used to calculate the theoretical dynamic profile of the rig and then compared with the actual recorded values. This will enable the effect of any changes in the individual response times to be assessed accurately.

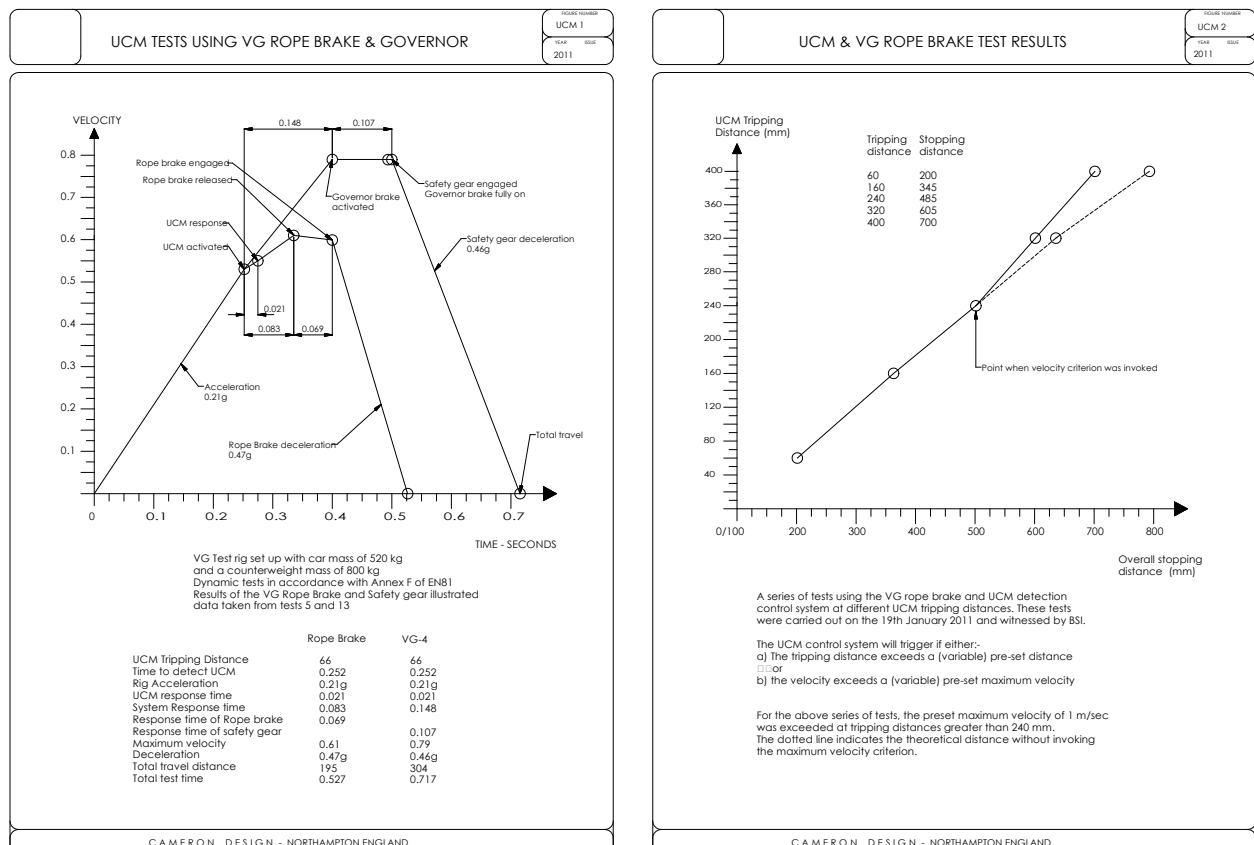


Figure 3

Analysis Of Results

The dynamic profile of the test rig has been appended to the VG rope brake application programme. A printout of the programme is appended for reference purposes. This amended programme will be used for all future applications using the overspeed governor.

The individually measured response times, as required by section F.8.3, are used to calculate the theoretical dynamic profile of the rig and then compared with the actual recorded values. This will enable the effect of any changes in the individual response times to be assessed accurately.

CE Plate

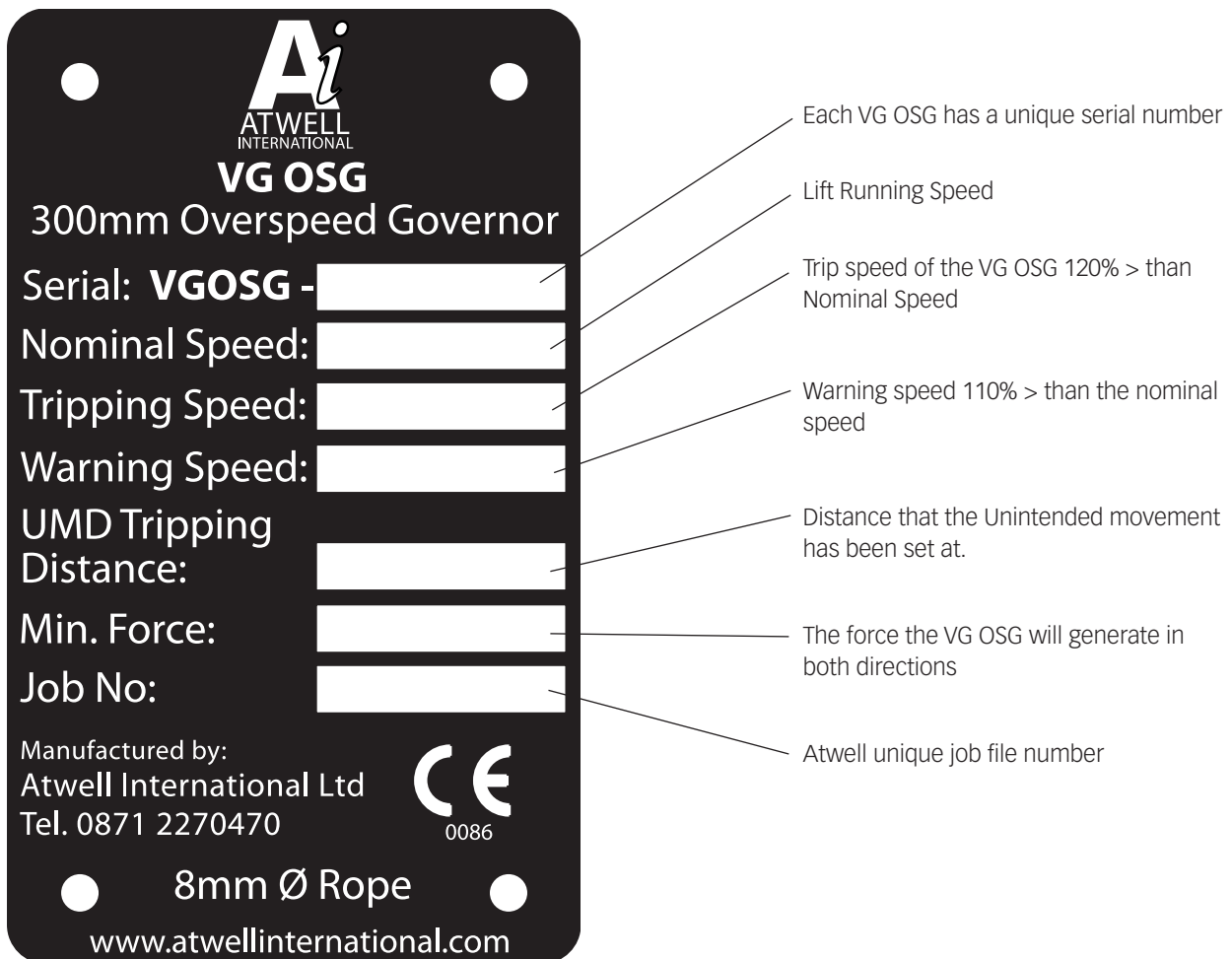


Figure 4

Installation

General Advice

The area that this unit is intended to be fitted should comply with the lift room regulations so that its installation, operation and maintenance is carried out in a risk free environment.

Specific hazards arise for inadequate lighting, untidy work area, trip hazards and poor access.

The Control Box VGOSG-CB01

It is recommended that the Control box is ideally mounted at approximately 1.5 metres high on to a solid wall adjacent to the main lift control panel. Consideration should be given to access for operation and maintenance of the control box as well as ease of cable runs.

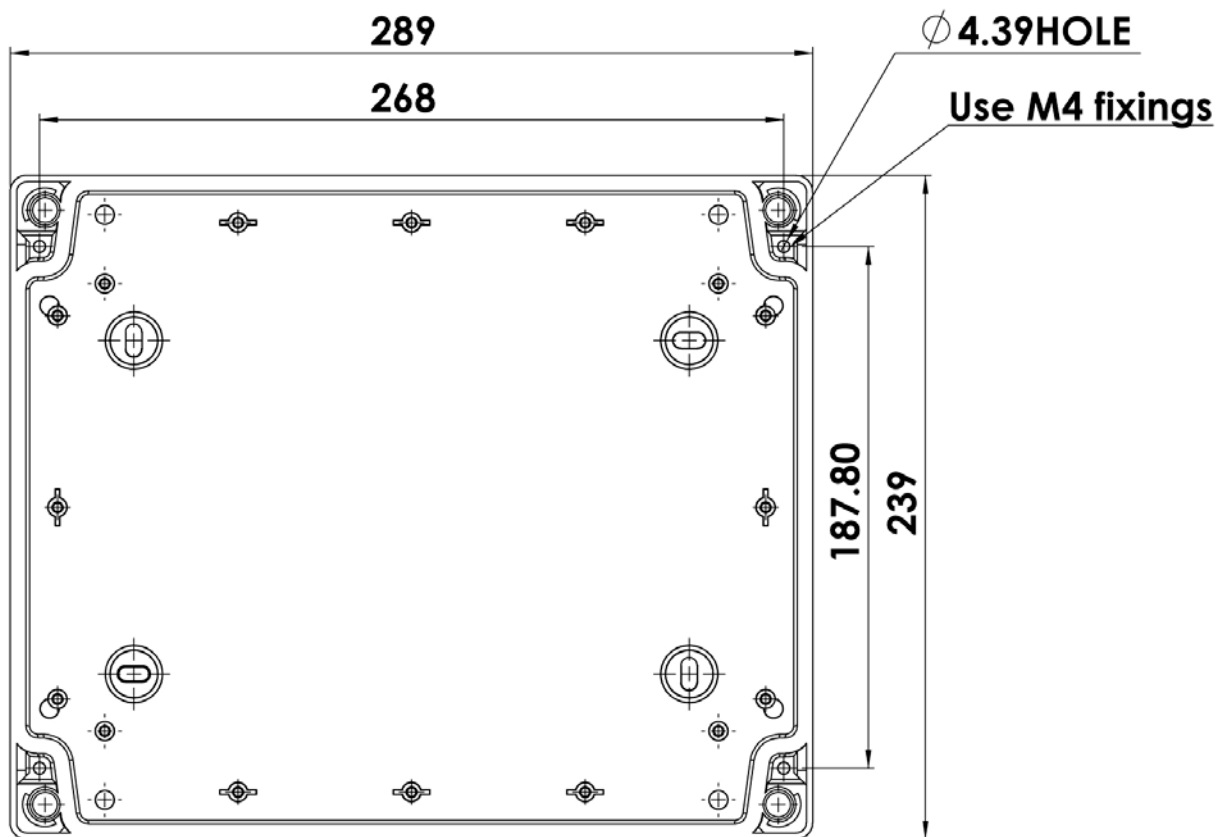


Figure 5

VGOSG-CB01A Fixing Holes

The enclosure weighs approximately 5 kg, it is supplied with 4 x M4 screws and rawl plugs to secure this control box to the wall.

Wiring

Once the control box is in place, cable runs can commence. See Drg. Circuit Diagram Overview (sheet 1) for help to plan the cable runs.



Figure 6



We would strongly suggest that the power is fed from the main lift panel protected by a circuit breaker Type C rated at 4 Amps.

The cable run should be as short as possible. If the length does not exceed 2metres the size should be at least 1.5mm². Stranded tri-rated PVC insulated. It should also comply with local regulations.

The control box base will need holes drilling in either the side or bottom face to allow for cable entry and it is recommended that Conduit Glands are used. Care should be taken when deciding on the cable entry points to avoid the internal battery and power supply unit both of which are mounted in the base.

During wiring great care must be taken to ensure that there is no risk of short circuits from stray strands, cross connection, loose terminals or strain on cable joins. All terminations should be made using boot lace ferrules or similar and each wire appropriately identified with its corresponding wire number at each end of the cable. Wiring of power and internal main lift connections must be carried out by a competent electrician, and checked prior to applying power.



SAFETY NOTE: Once connected to the main lift control panel there will be potentially live connections within the VGOSG-CB01 enclosure even when the fuses for the enclosure have been withdrawn. Within the VGOSG-CB01 enclosure the internal connecting cables are coloured red (input wiring from the main controller may be different colour) and warning symbols are displayed, this is so that you can easily identify them as potentially live, check them and beware of them.

Note: The battery is not connected during shipping. The competent electrician must only connect the battery after testing the wiring and immediately prior to switching on the power for the first time.



Make sure power is disconnected prior to attempting to check or replace fuses. As there are live terminals connected through to the end of the fuse so if you touch the fuse it could be Live!

Please check rating against labels of each fuse.

- | | |
|--|----------|
| a. F1 (FS201) = Battery | 1.25Amps |
| b. F2 (FS202) = 12v Internal Power Supply Unit | 2.5Amps |
| c. F3 (FS203) = 12v Relays / 12v Supply to VG OSG / 12v Output | 2.5Amps |
| d. F4 (FS204) = Door / Motor Contacts | 3.15Amps |

The fuses we use are:

	1.25A	2.5A	3.15A
Braking Capacity	35A@250Vac	35A@250Vac	35A@250Vac
Dia (mm)	5	5	5
Fuse Technology	F;LBC	F;LBC	F;LBC
Length (mm)	20	20	20
Voltage Rating	250Vac	250Vac	250Vac
RS Part No.	541-3079	541-4397	541-4426
Man. Part No.	021702.MXP	02171.25MXP	02173.15MXP

Connections to the Main Lift Control Panel must be carried out carefully to ensure that the correct function of the signals is produced.

The control box input signals are 12V DC 100mA they require a dry / volt free relay contact normally open and energised when the Car and Landing doors are closed.

The operation of these switches is essential to enable the VG OSG to operate safely, i.e. if a cable is broken or the lift over speeds the VG OSG will be FAIL SAFE. i.e. any problems, the VG OSG will activate.

The connection from the Main Lift Panel such as Alert signal and emergency stop must be 230 Volts maximum and must not exceed 5 amps. The control box provides dry / volt free relay contacts for your signals.

Please also see electrical drawings supplied with this manual for further information.



SAFETY NOTE:

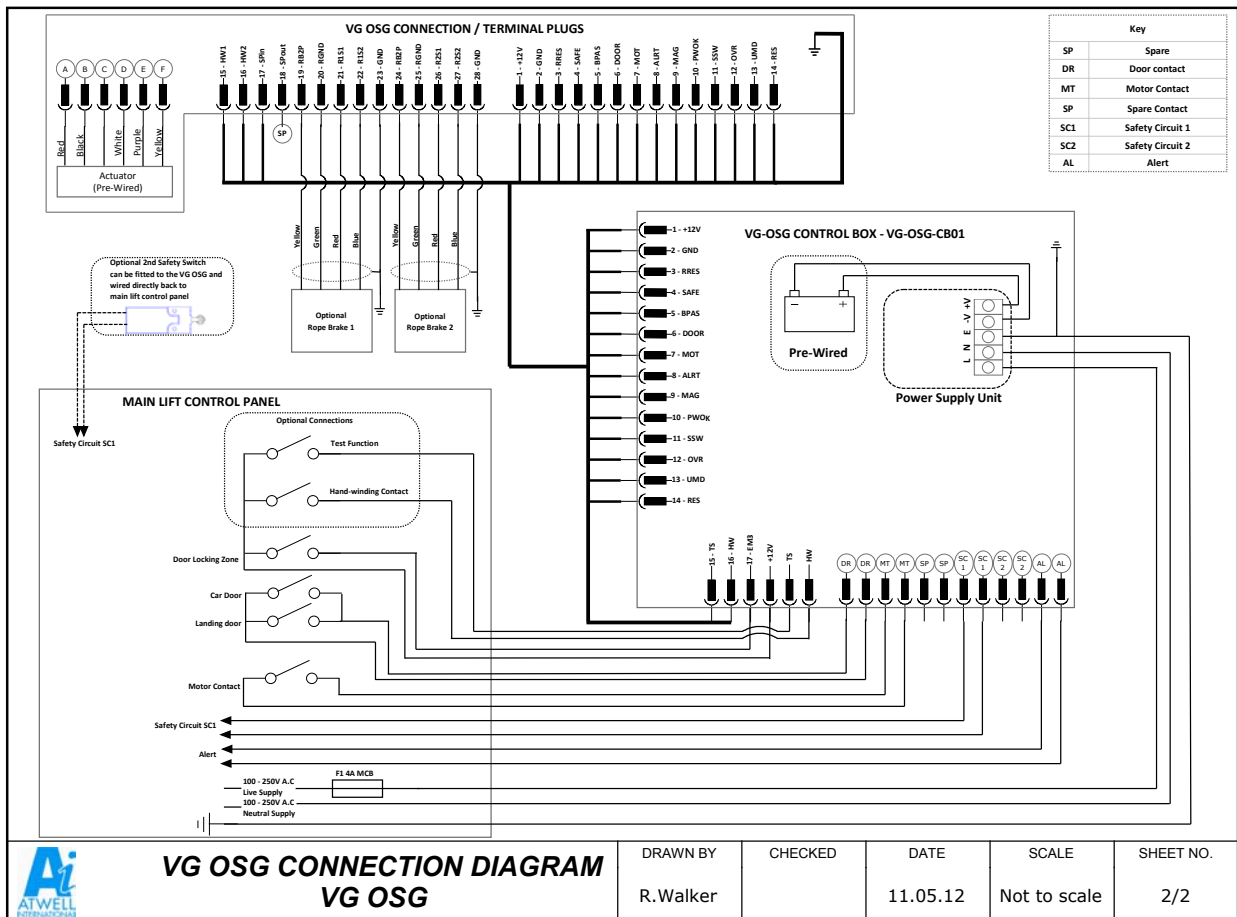
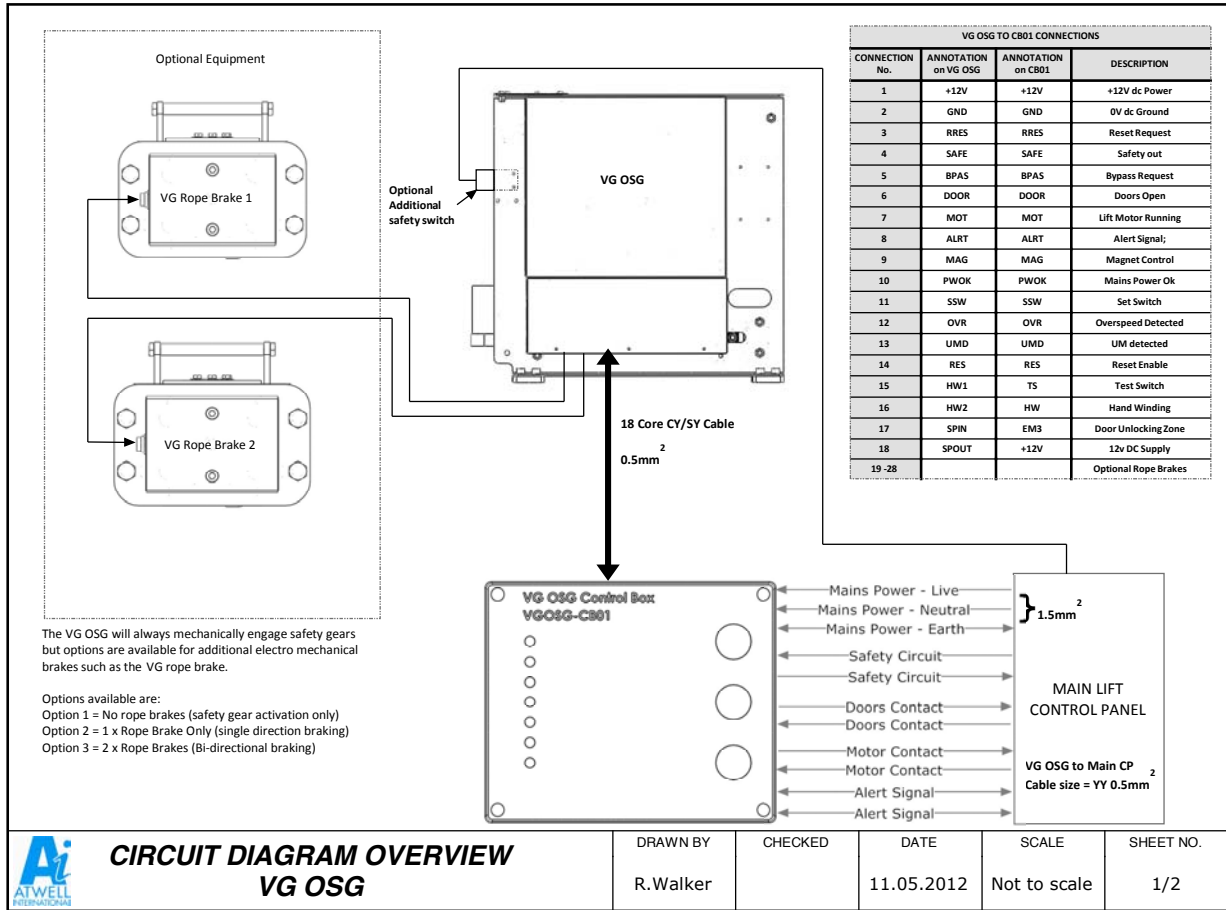
DO NOT TAMPER WITH THE CONTROL BOX

If it does not allow the VG OSG to reset then there is still a problem with the lift!

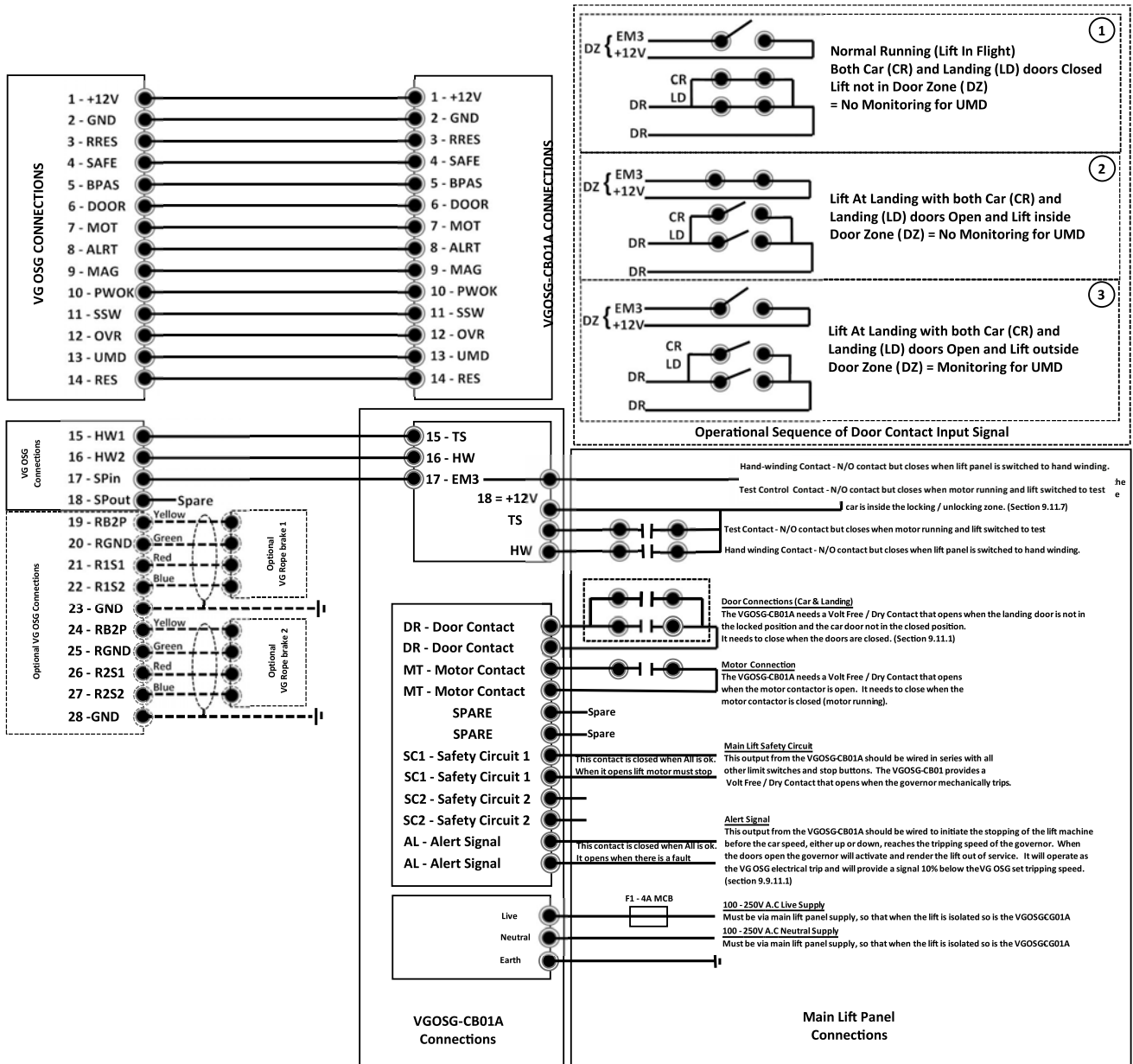
Rectify the problem and the controller will allow a reset.

Do not leave the lift to run in engineer "bypass mode", this is purely a function to allow you to carry out maintenance on the lift without triggering uncontrolled movement. You will have circumvented part of the safety circuit.

Wiring Diagram



Connection Overview



Notes:

- It is recommended that boot lace ferrules are used when connecting the cables to the plug in terminal strips.

Cable Size Recommendations

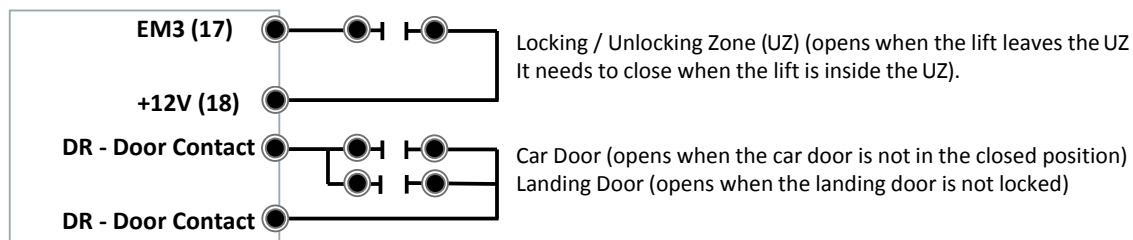
VG OSG to VGOSG-CB01 = 18 Core 0.5mm CY cable
 VGOSG-CB01 to Main Lift Panel 240V feed = 3 core 1.5mm
 VGOSG-CB01 to Main Lift Panel = 0.5mm YY Cable
 Main Panel Internal Wiring = 0.5mm tri-rated cable

- If NO locking / Unlocking Zone switch available then contact Atwell International for alternative wiring.

April 2012

Door Contact Wiring Options (12v Circuit)

Option 1. (Preferred)

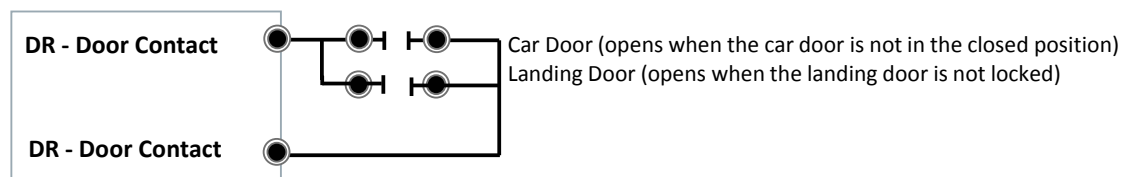


Notes:

Will comply fully with EN81-1:1998+A3:2009

Will not cause false tripping of the VG OSG due to crash stopping or tipping locks or bounce when at floor level.

Option 2.



Notes:

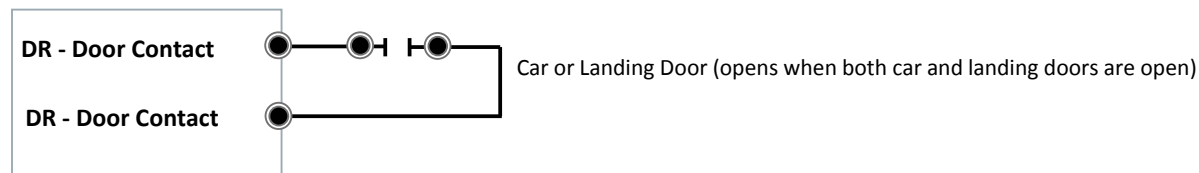
Will comply fully with EN81-1:1998+A3:2009

Will require a permanent link across 17 (EM3) & 18 (+12v).

UMD settings will apply (200mm default setting) as UMD detection will start as soon as the lift moves with both sets of doors open.

Will not cause false tripping of the VG OSG due to crash stopping or tipping locks.

Option 3.



Notes:

Will comply fully with EN81-1:1998+A3:2009.

Will require a permanent link across 17 (EM3) & 18 (+12v).

Will cause false tripping of the VG OSG due to crash stopping unless VGOSG-CB01A control box is switched to "BYPASS" first.

The VG OSG will deploy if a door lock is tipped in flight and does not close before the set UMD distance.

NOTE:

The VG OSG relies upon the integrity of the signals received from the main lift control panel being maintained at all times, any loss in these signals will result in the VG OSG defaulting to a fail safe mode (meaning it will deploy and activate the safety gears if the lift continues to move).

If these signals can not be maintained during all circumstances then advice must be sort from Atwell International.

If mains power fails then the VG OSG will revert to the last known state prior to the loss of mains power.

Mechanical Installation

The VG OSG should be installed using the mounting feet provided; other mounting options are available on request, which will facilitate accurate alignment and adjustment so that it is parallel and square to the governor rope / pit tension weight. The fixings used must be capable of withstanding the static braking force calculated by the application program with an appropriate margin of safety.

The VG OSG should now be roped with an appropriate 8mm governor rope with a Tensile Grade of between 1570N/mm² to 1770N/mm². You must ensure that the rope follows the path shown in the diagram below and runs squarely in the pulley groove.

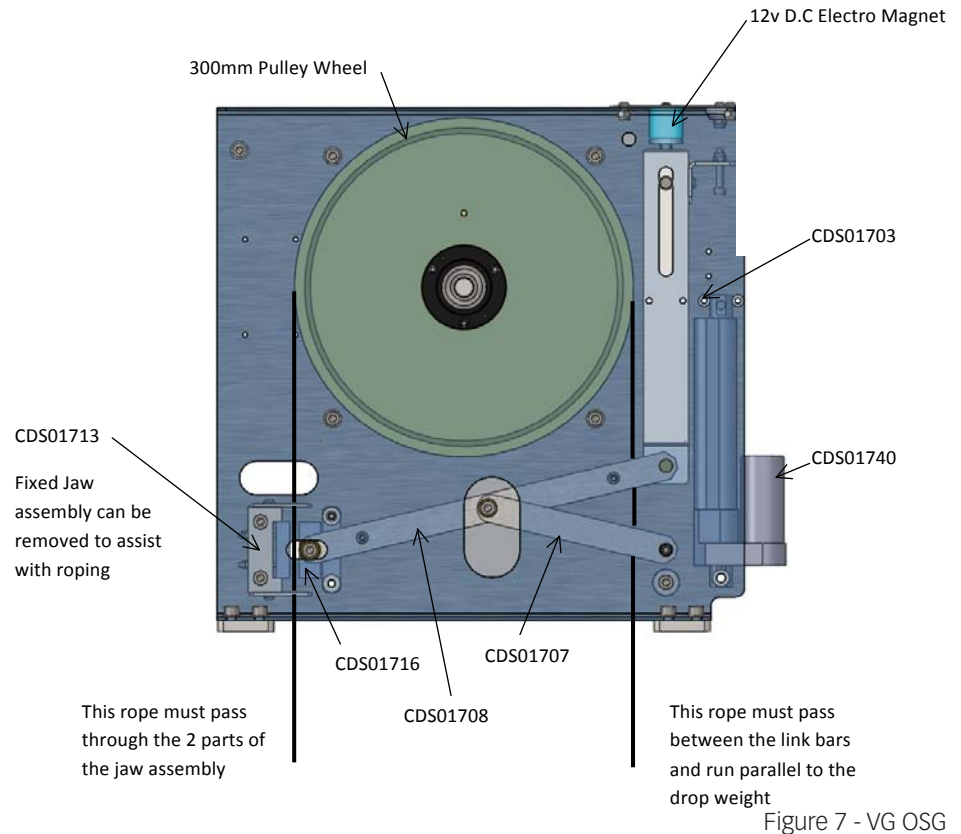


Figure 7 - VG OSG

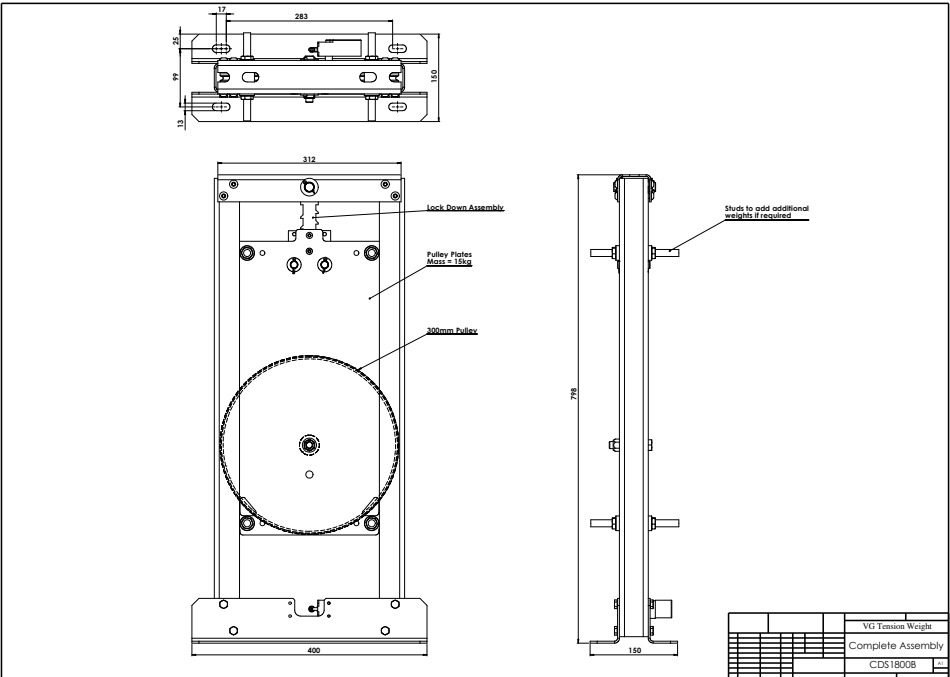
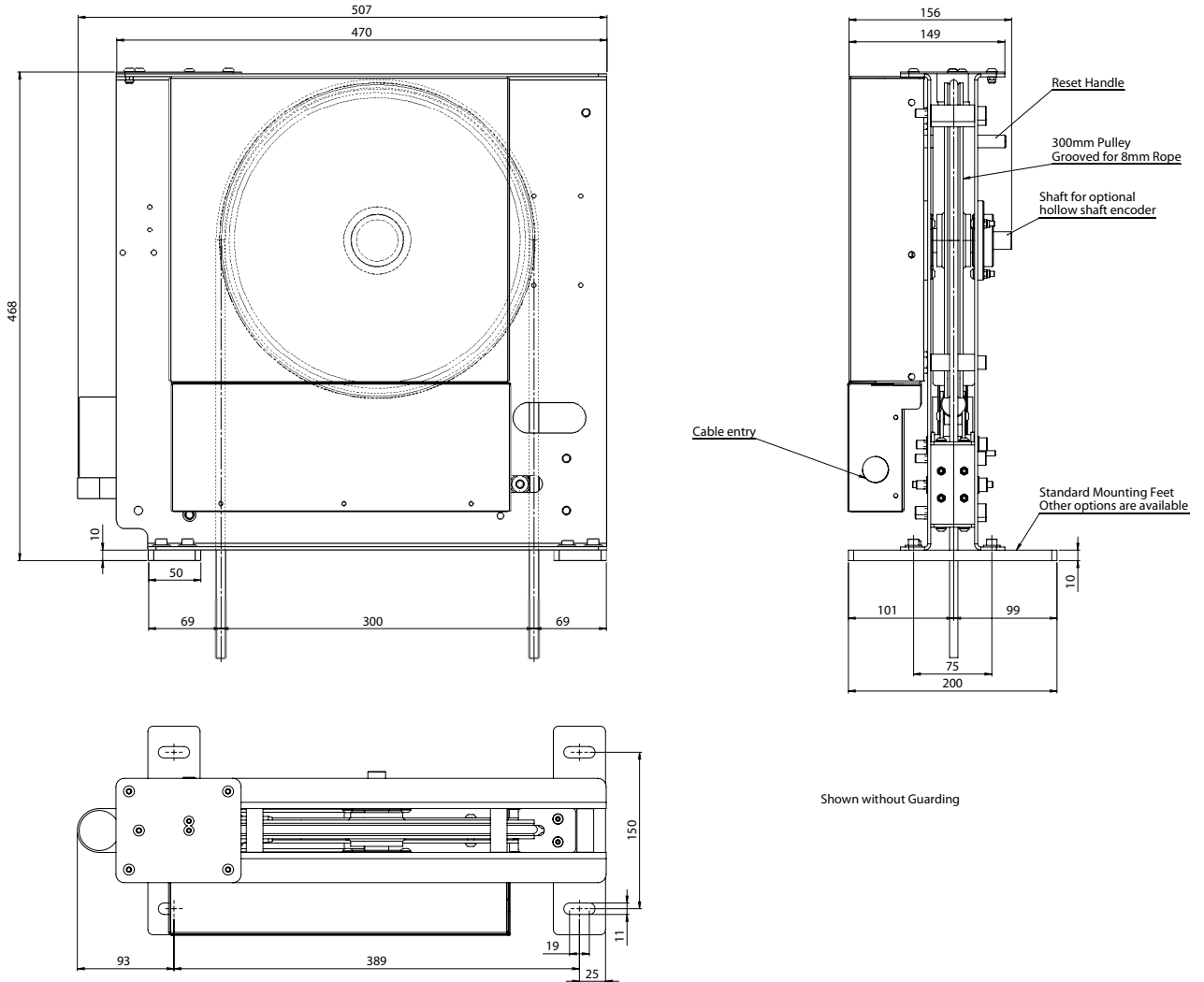


Figure 8

VG OSG Dimensions

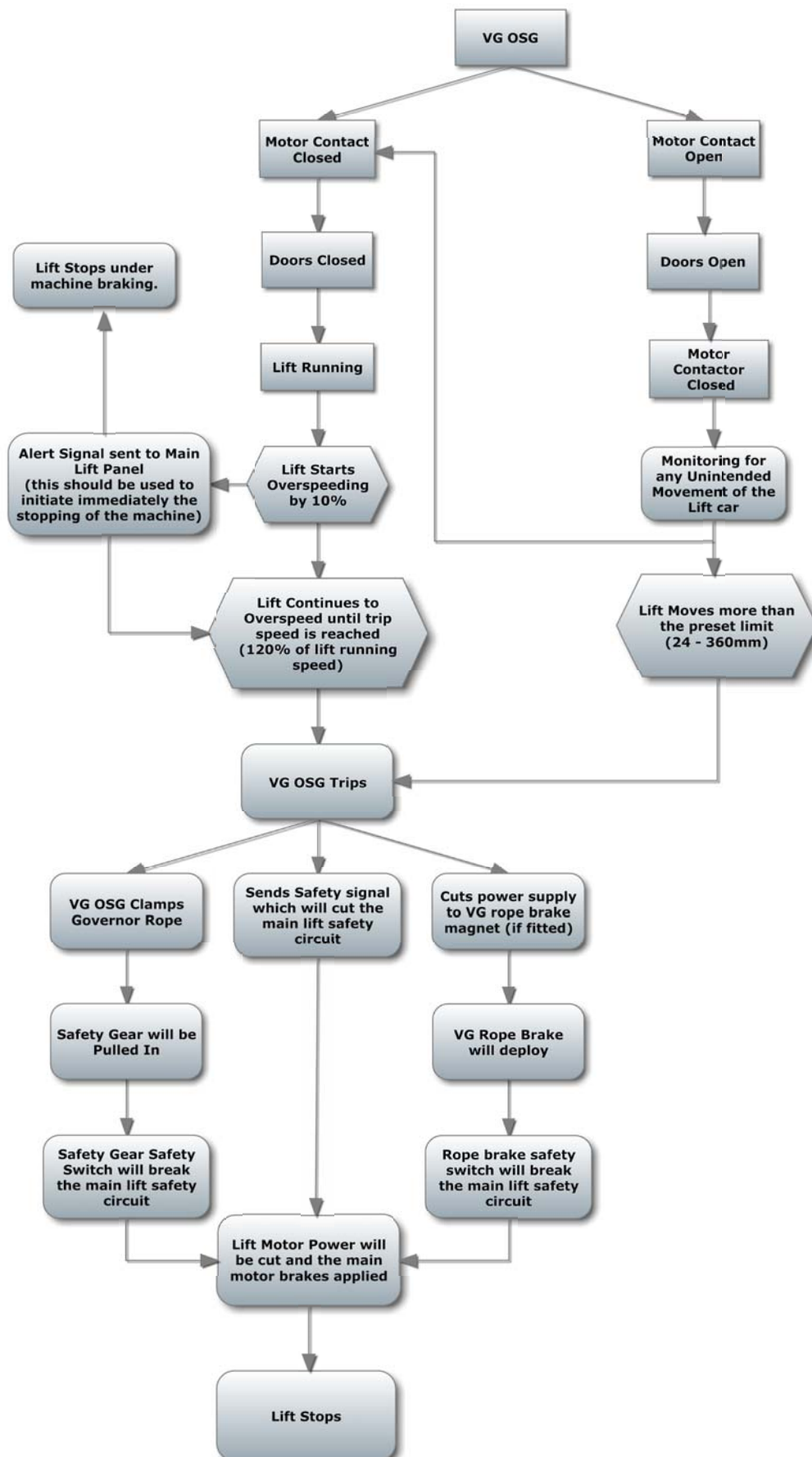


Shown without Guarding

Figure 9 - VG OSG



VG OSG Operational Flowchart



Normal Operation

Resetting The System

To "SET" the system for the very first time is the same procedure as to each time you need to "RESET" the system, and that is as follows.

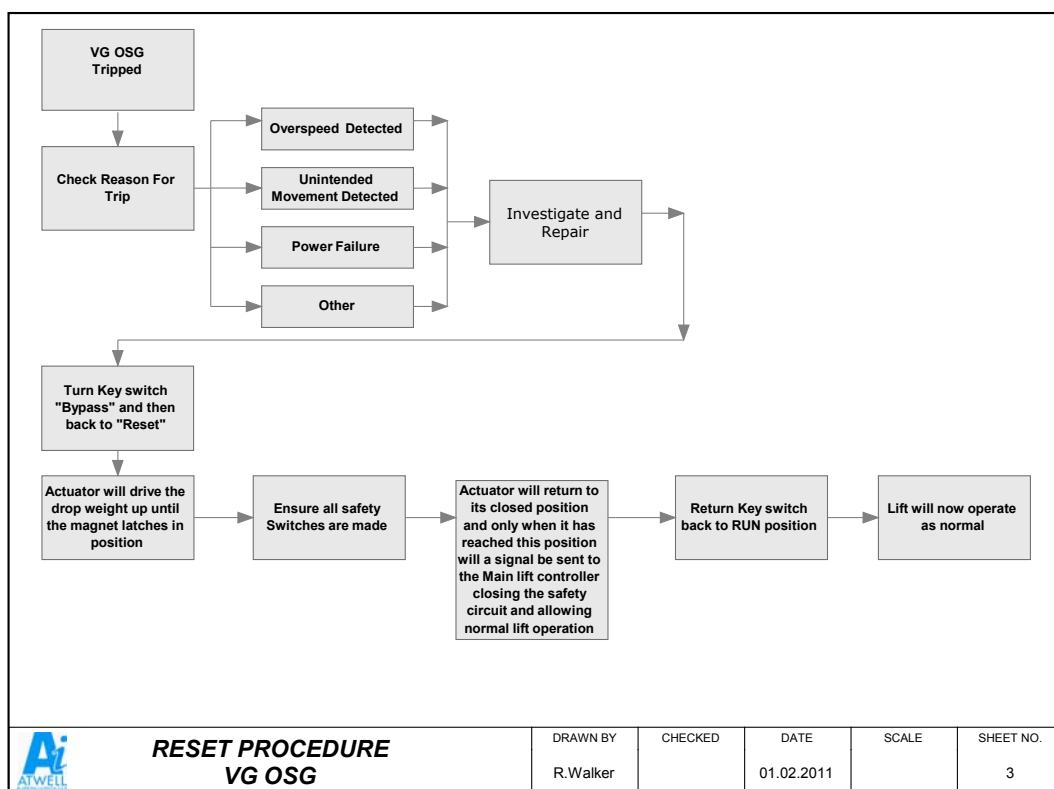
- Check that all faults are cleared and that there is no reason why the lift cannot be put back into service. i.e. reason for brakes to be deployed has been rectified.

(If there are faults rectify them first.)

- Ensure the reset handle is fully down.
- Check that the "Reset Mode Enabled" LED is illuminated.
- Check "Doors Closed" LED is illuminated
- Check "Motor Running" LED is NOT illuminated
- Insert the key into the reset/run/bypass switch.
- Turn the key first to the bypass position and then back to the reset position and leave it there whilst the VG OSG resets.
 - o The actuator will operate and drive the drop weight up
 - o The magnet will latch
 - o The actuator will return to its start position and then
 - o The "SET OK" LED will illuminate and the Main Lift Safety Circuit will be made
 - o The lift is now ready for normal operation.
 - o Turn the key to the "RUN" position and remove the key.



Warning the safety devices controlled by this controller are bypassed while the key is in this position.



By-Passing The System

To "BYPASS" the system you will disable the unintended movement detection function, but if the lift over speeds then the VG OSG will be deployed.

This function is purely for testing and maintaining the lift. When in this mode a sounder will beep every 30 seconds, to remind you that it cannot be left in this mode.

If you are sure you need to bypass the movement detection then this is how it should be done.

- Check that there are no faults present and that there is no reason why the lift cannot be put into service.
- Check the "SET OK" LED is illuminated.
- Insert the key into the reset/run/bypass switch.
- Turn the key to the bypass position and leave it there, after a short time delay a sounder will start emitting a beep.
- To return to normal operation – turn the key switch back to "RUN".

Warning the safety devices controlled by this controller are bypassed while the key is in this position.

Test Deployment Of The VG OSG

To test deployment of the VG OSG follow the procedure below.

Note: this will also send an emergency stop signal to the main lift panel to prevent the lift from moving. This stop signal can also be tested this way.

- Check that the "SET OK" LED is illuminated.
- Press the emergency stop button.
- The VG OSG magnet will be immediately de-energised and subsequently deployed and clamp the ropes.
- Check that "SET OK" LED has been extinguished.

Warning the VG OSG will not reset until the stop button is reset.



**If Bi-Directional VG Rope Brake Installed
Disengage Before Hand Winding**

RELEASE INSTRUCTIONS

1. Check the visual displays on the "VGOSG-CB01A" control box.
2. Investigate reason for engagement and carryout appropriate action.
3. Read local hand winding instructions.
4. Ensure Mains Isolator is switched off.
5. On the "VGOSG-CB01A" control panel insert the key and turn first to the bypass and then to the "RESET" position.
6. The actuator on the VG OSG will power through a resetting sequence.
7. When the "SET OK" LED is illuminated, turn the key switch to "RUN".
8. Turn the second key switch to "Hand winding".
9. The VG OSG will now monitor for overspeed to a maximum mechanical trip of 0.4m/s and electrical trip of 0.3m/s.
10. Handwind the machine in accordance with local instructions.

NOTE: If no mains power and the battery backup has failed, manual disengagement of the VG OSG will be required. It should also be noted that no overspeed or unintended movement detection will be available in this condition.

TO RE-INSTALL LIFT SERVICE FOLLOWING HAND WINDING

1. Ensure all safety circuits are reset and the corresponding LED's on the "VGOSG-CB01" are illuminated
2. Ensure the reason for engagement has been investigated and appropriate action taken.
3. Ensure the VG OSG has been fully reset
4. Ensure Key Switch for "hand winding is back in the "off" position.
5. Turn key switch back to "RUN" position and remove key.
6. Check lift is working correctly.

Regular Maintenance

It is essential that a "Competent Person" maintain this system in a safe manner at regular intervals.

We would recommend that a monthly interval for an observational check, then every 3 months to 6 months for more thorough cleaning and checking, then an annual test.

The "Competent Person" must have had adequate training in theory and practice together with experience of the equipment in question; to enable a true assessment of its condition for continued safe operation.

No repairs to this system should be undertaken without the advice and instruction of the supplier (Atwell International) this advice and instructions from the supplier must be followed, any deviation may risk the safe operation of the lift.

No replacement parts other than those specified or supplied by the supplier (Atwell International) should be used as incompatible parts may risk the safe operation of the lift. Genuine spares are available within 24 hours at a reasonable cost, but if they are needed quicker than exact same or equivalent parts may be sourced locally once the exact specification of those parts has been obtained and you have suitably assessed the implications of using non-standard parts. If there is any doubt then you should render the lift out of service and contact Atwell International or one of its appointed agents for assistance.



Safety Note

During any Maintenance work great care must be taken to prevent coming into contact with any live terminals, if there is any doubt then isolate the device, and test it with a multimeter to be sure it is not live. Because this controller connects to external power sources then do not assume that because the fuses are out there is no potential for electric shock.

Maintenance Instructions

1. Controller (VGOSG-CB01)

Monthly

Ensure exterior of the cabinet is clean and dry and free of dust.

Check the LED indicators for correct function.

6 Monthly

Check Fuses are correct rating and are intact.

Check cable entry points are secure and free of damage

Check cables are strain free, adequately supported.

12 Monthly

Check that the control voltage is at least 12V DC and no more than 14.5VDC

Check that when running on Battery the control voltage is at least 12.2V. If not charge the battery for 12hours and test again, if it does not hold a charge it must be replaced.

36 Monthly

Replace the battery after a maximum of 36 months of service.

Replace the 2 Safety relays after a maximum of 36 months of service.

2. Governor (VG OSG)

Monthly

Check cleanliness of pulley clear any debris of dust from assembly

6 Monthly

Check all moving parts for free movement and wear.

Check rope alignment & excessive wear.

Check the security of all parts, ensure all nuts and bolts are tight

Check all security seals are intact

2. Operational Checks

12 Monthly

Check the correct functioning of the Run / Reset / Bypass Key Switch

Check the correct functioning of the Electric safety devices.

Check the deployment of the VG OSG.

Check the correct functioning of the Alarm / Error signals

Check the unintended movement detector functions

If during the routine visits it is apparent that there are any signs of damage or wear or abuse of any of the components of the system, then you must remove the lift from service until the faults are remedied and the installation is tested by a competent person.

Definitions

For the scope of this documentation the following terms are clarified to have the described meanings.

Owner of the Lift

The natural or legal person who has the power of disposal of the lift and takes the responsibility for its intended operation and use.

Emergency

An abnormal situation in which persons require outside assistance.

Fault

A situation of operation in which safe operation of the lift for its intended use is restricted or impossible.

Installer

The natural or legal person who takes responsibility for the design, manufacture, installation and handover of the lift, including its safety components.

Maintenance Company

A company which is given responsibility for carrying out company maintenance operations, and which has competent persons at its disposal.

Maintenance Operations

All necessary operations (lubrication, inspections, cleaning, operations etc.) to ensure the correct and safe functioning of the lift after the completion of the installation.

Repair

Replacement or repair of defective and/or worn components.

Safety Components

Components which are defined as safety components in the EU Lifts Directive (2014/33/EU).

Competent Maintenance Person

Persons with the knowledge, technical ability and equipment able to perform the tasks allocated to them without danger.

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To find out more, visit our website

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