



INSTALLATION MANUAL

PART 2 of 2



D-Drive Wall Controller DDC-22

Installation Manual for D-Drive Wall Control DDC-22
This manual should be read in conjunction with Installation Manual
D-Drive Door Operator (PART 1 of 2)

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GRIFCO®

1. SAFETY INSTRUCTIONS



WARNING: THESE ARE IMPORTANT SAFETY INSTRUCTIONS.
FOLLOW ALL INSTRUCTIONS AS INCORRECT INSTALLATION CAN LEAD TO SEVERE INJURY OR DEATH
SAVE these instructions

These wall controllers have been designed and tested to offer safe service provided it is installed, operated, maintained and tested in strict accordance with the instructions and warnings contained in this manual.

This document is the installation manual for the wall control of the D-Drive operator. The following warnings need to be considered for the complete system installation:



WARNING

Mechanical

When you see this Safety Symbol and Signal Words on the following pages, they will alert you to the possibility of serious injury or death if you do not comply with the warnings that accompany them. The hazard may come from something mechanical.

- Sticking or binding doors must be repaired. Commercial doors, door springs, pulleys, brackets and their hardware are under extreme tension and can cause serious personal injury. Do not attempt to loosen, move or adjust them. Call for commercial door service.
- Do not wear rings, watches or loose clothing while installing or servicing a commercial door operator.
- To avoid serious personal injury from entanglement, remove all ropes connected to the commercial door before installing the door operator.
- After the installation a final test of the full function of the system and the full function of the safety devices must be done.
- When operating a biased-off switch, make sure that other persons are kept away.
- The operator cannot be used with a driven part incorporating a wicket door (unless the operator cannot be operated with the wicket door open).
- Operator may become hot during operation. Appropriate clearance and/or shielding should be supplied by the installer to ensure any cabling, wiring and/or other items cannot come in contact with the operator. If temperature rise exceeds 50°C all fixed wiring insulation must be protected, for example, by insulating sleeving having an appropriate temperature rating.
- Do not allow children to play with operator wall controls or remote controls. Keep remote controls away from children.
- Permanently fasten all supplied labels adjacent to the wall control as a convenient reference and reminder of safe operating procedures.
- Disengage all existing commercial door locks to avoid damage to commercial door. Install the wall control (or any additional push buttons) in a location where the commercial door is visible during operation. Do not allow children to operate push button(s) or remote transmitter(s). Serious personal injury from a closing commercial door may result from misuse of the operator.
- Activate operator only when the door is in full view, free of obstructions and operator is properly adjusted. No one should enter or leave the building while the door is in motion.
- The actuating member of a biased-off switch is to be located within direct sight of the door but away from moving parts. Unless it is key operated, it is to be installed at a minimum height of 1500mm and not accessible to the public.
- Make sure that people who install, maintain or operate the door follow these instructions. Keep these instructions in a safe place so that you can refer to them quickly when you need to.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- Use the operator for its intended purpose. This product is for indoor use only.
- Automatic Drive - Keep away from the area of the door as it may operate unexpectedly.
- Ensure that entrapment when operating the door in the open direction is avoided.
- If the operator is installed at a height less than 2.5 metres from floor level or any other level from which the operator can be accessed (eg mezzanine) the installer is responsible to fit guards as appropriate to prevent access to moving mechanisms to reduce risk of entrapment.



WARNING

Electrical

When you see this Safety Symbol and Signal Words on the following pages, they will alert you to the possibility of serious injury or death if you do not comply with the warnings that accompany them. The hazard may come from electric shock.

- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Installation and wiring must be in compliance with your local building and electrical codes. Connect the power supply cord only to properly earthed mains.
- Moisture and water can destroy the electronic components. Make sure under all circumstances that water moisture or storage moisture cannot penetrate the electronics. The same applies for openings and cable entries.
- An electrician must disconnect electric power to the commercial door operator before making repairs or removing covers.



CAUTION

When you see this Signal Word on the following pages, it will alert you to the possibility of damage to your commercial door and/or the commercial door operator if you do not comply with the cautionary statements that accompany it.

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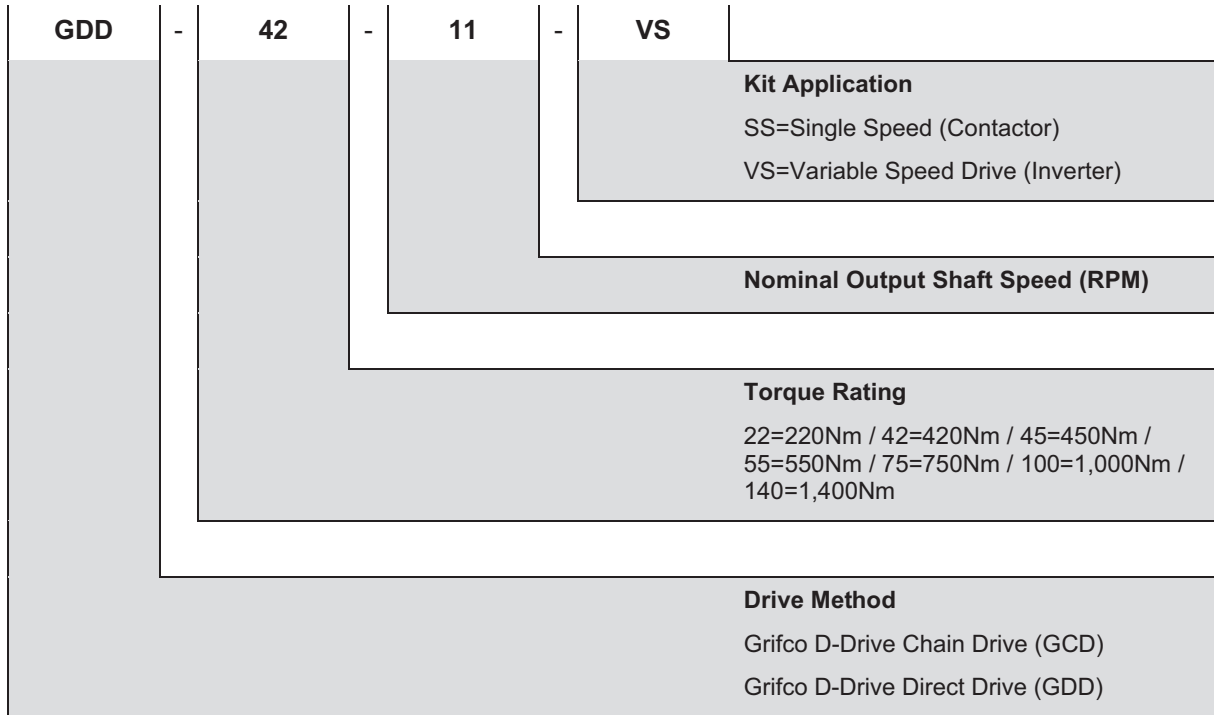
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3. GENERAL INTRODUCTION

The D-Drive Wall Controls are designed to be used with either Chain Drive Operators or Direct Drive Operators. See table below for details of Wall Control model used in the range of Operator Models.

3.1. KIT PRODUCT NUMBERING

The Kit model number is made up of 4 components to identify drive method, torque rating, nominal output speed and type of speed controller. An example is shown below.



3.2. APPLICABLE OPERATOR KITS

Kit product is matched to a Single Speed (Contactor) or a Variable Speed (Inverter) Controller. The Kits are shown below for various torque ratings.

CHAIN DRIVE (GCD) MODELS	SINGLE SPEED (CONTACTOR) CONTROLLER
WALL CONTROLLER MODEL	DDC-22
450NM	GCD-45-23-SS
DIRECT DRIVE (GDD) MODELS	
WALL CONTROLLER MODEL	DDC-22
420NM	GDD-42-11-SS
550NM	GDD-55-11-SS
750NM	GDD-75-10-SS
1,000NM	GDD-100-10-SS
1,400NM	GDD-140-09-SS

4. DDC-22 WALL CONTROLLER

4.1 HOW TO OPEN THE ENCLOSURE

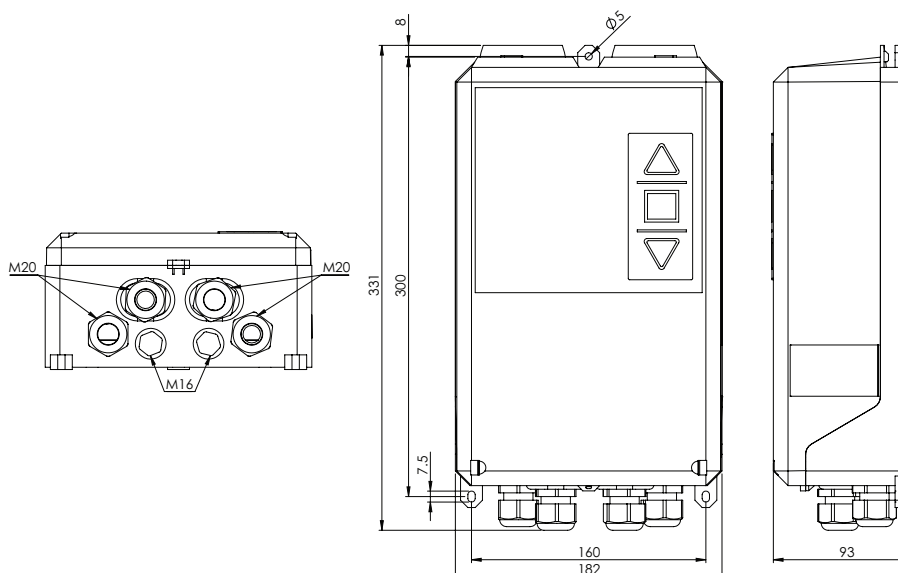
Follow these instructions to open the DDC-22 controller enclosure.

1. Insert a flat head screwdriver into hole 1
2. Push the screwdriver handle towards the centreline (in the direction of the arrow shown in the diagram)
3. Gently lift the side of the controller enclosure.
4. Repeat for hole 2 pushing in the direction indicated by the arrow.

To close, align the tabs on the fascia with the slots on the rear enclosure. Lower the fascia ensuring the cabling is contained within the enclosure. Press firmly on the lower edge of the fascia at hole 1 and 2.



4.2 ENCLOSURE DIMENSIONS



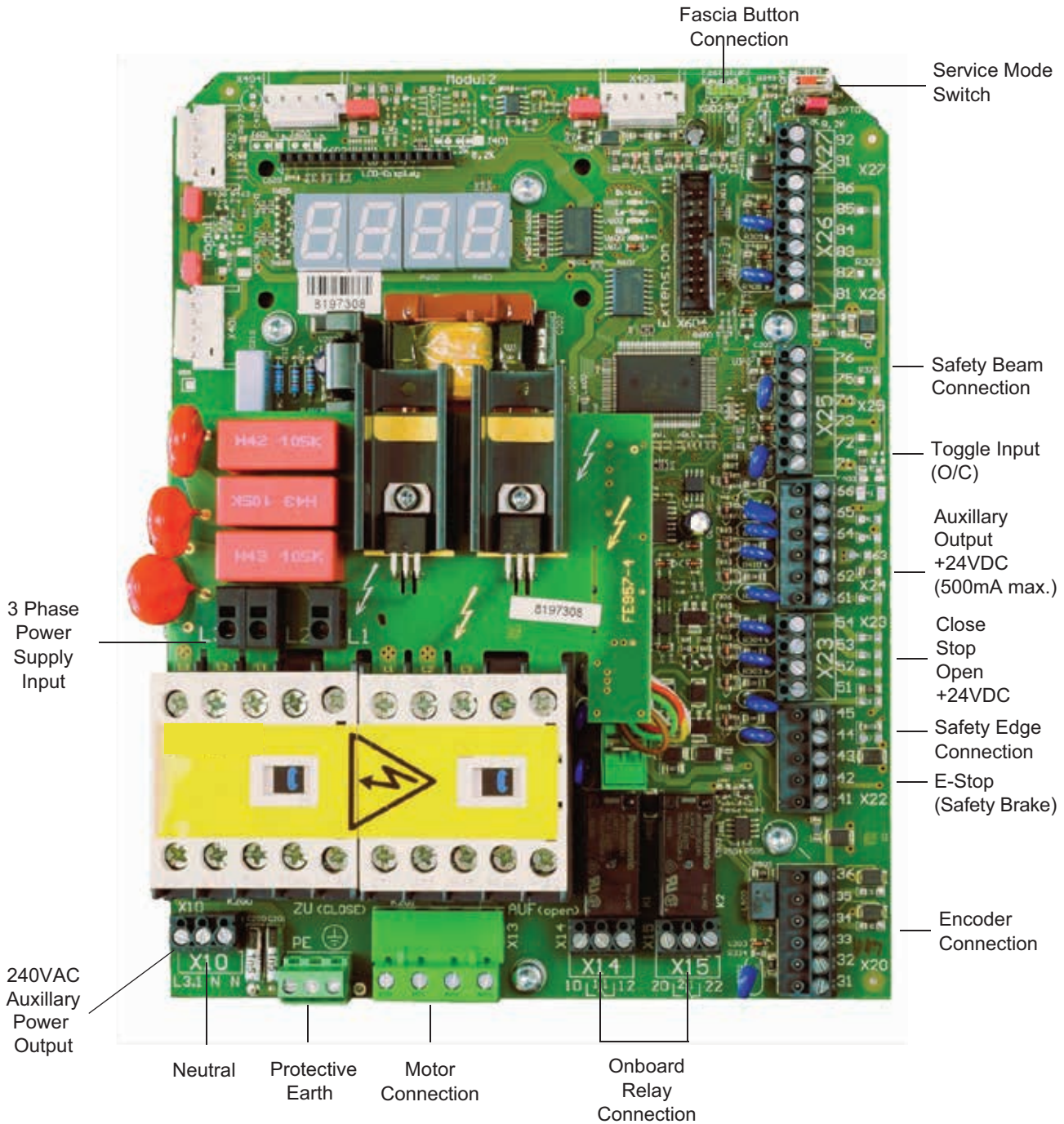
4.3 INSTALLATION CLEARANCE

The Wall Controller must be installed with a minimum 100 mm vertical distance from obstructions.



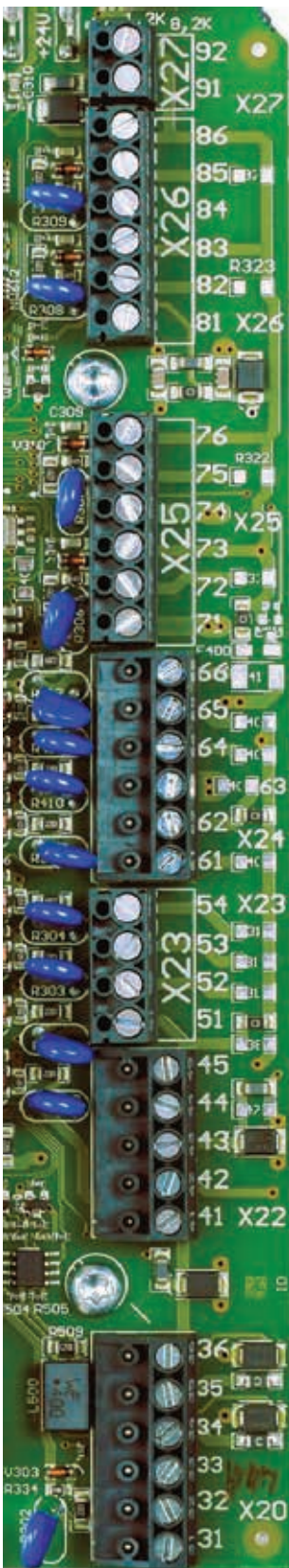
4. DDC-22 WALL CONTROLLER

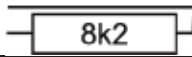
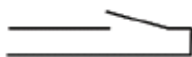
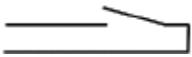
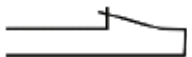
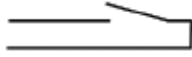
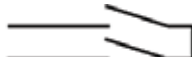
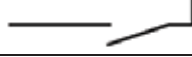
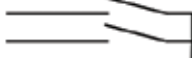
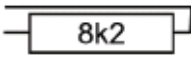
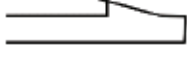
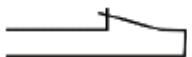
4.4 DDC-22 CONTROL BOARD OVERVIEW



4. DDC-22 WALL CONTROLLER

4.5 INPUT OUTPUT OVERVIEW



PIN	INPUT	DESCRIPTION	NORMAL STATE	
92	Input 31	Safety Edge 8k2		N/O
91		GND		
86	Input 7	+24V		N/O
85		Inch / Latch		
84		GND		
83	Input 6	+24V		N/O
82		Permanent OPEN		
81		GND		
76	Input 5	+24V		N/C
75		Safety Beam		
74		GND		
73	Input 4	+24V		N/O
72		Toggle Input (OPN/CLS)		
71		GND		
66	Output 15	+24V		
65	Input 10	Enable Auto Close		N/O
64	Input 9	Bypass Mid Limit		
63		GND		
62		+24V		
61	Input 8	Locking End CLOSE		N/O
54	Input 3	CLOSE		N/O
53	Input 2	STOP		
52	Input 1	OPEN		
51		+24V		
45		+12V (Non-fused)		
44		GND		
43		Safety Edge		N/O
42	E-Stop 1	Safety Brake (GCDO)		N/C
41		or Link Wire (GDDO)		
36		GND		
35		Channel B		
34		Channel A		
33		+12V (Non-fused)		
32	E-Stop 2	Motor Thermal and Hauling		N/C
31		Chain Safety Input		

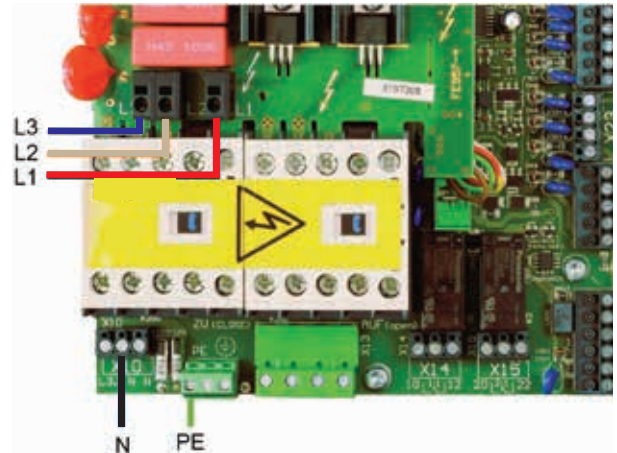
NOTE: Pin 31 to Pin 36 are encoder inputs

4. DDC-22 WALL CONTROLLER

4.6. WIRING

4.6.1 MAINS WIRING TO WALL CONTROLLER

Wire mains power to the connections shown in the diagram.

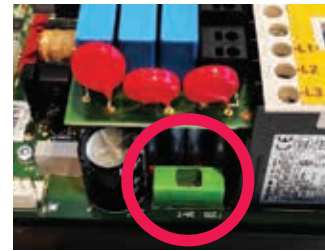


WARNING ELECTRICAL

Power terminals L1, L2 and L3 are spring type terminals
Care must be taken to ensure loose wire strands are not left outside of the terminal.

4.6.2 MAINS POWER PROTECTION FUSE

A fuse is located on the MCB to protect against mains input power overload. After checking the cause of the fault the fuse can be replaced with a 2A 250V 20mm x 5mm Glass Fuse.



4.6.3 MOTOR WIRING TO OPERATOR



WARNING ELECTRICAL

Ensure the motor terminals are configured correctly for the controller type being used as indicated in the diagrams below.

Incorrect motor terminal configuration can cause damage and will void warranty.

The Operator is supplied in STAR configuration.

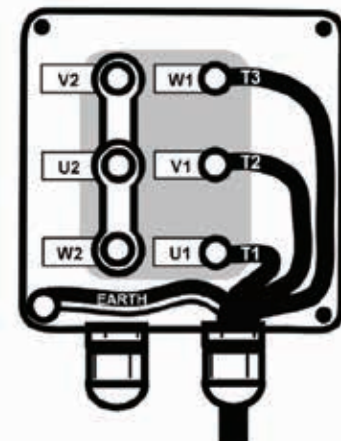
STAR configuration is required for the DDC-22 Single Speed Contractor Controller models (as shown in the diagram).

Applicable models are:

CONTROLLER	KIT	OPERATOR
DDC-22	GCD-45-23-SS	GCDO-45-23
DDC-22	GDD-42-11-SS	GDDO-42-11
DDC-22	GDD-55-11-SS	GDDO-55-11
DDC-22	GDD-75-10-SS	GDDO-75-10
DDC-22	GDD-100-10-SS	GDDO-100-10
DDC-22	GDD-140-09-SS	GDDO-140-09

Connect wiring by:

1. Feed the motor cable through the cable gland on the side of motor control enclosure.
2. Securely connect the Earth of the motor cable to the earthing screw shown.
3. Securely connect T1, T2 and T3 of the motor cable into terminals U1, V1, and W1 respectively.
4. Bridge terminals V2, U2 and W2 as shown in the diagram.

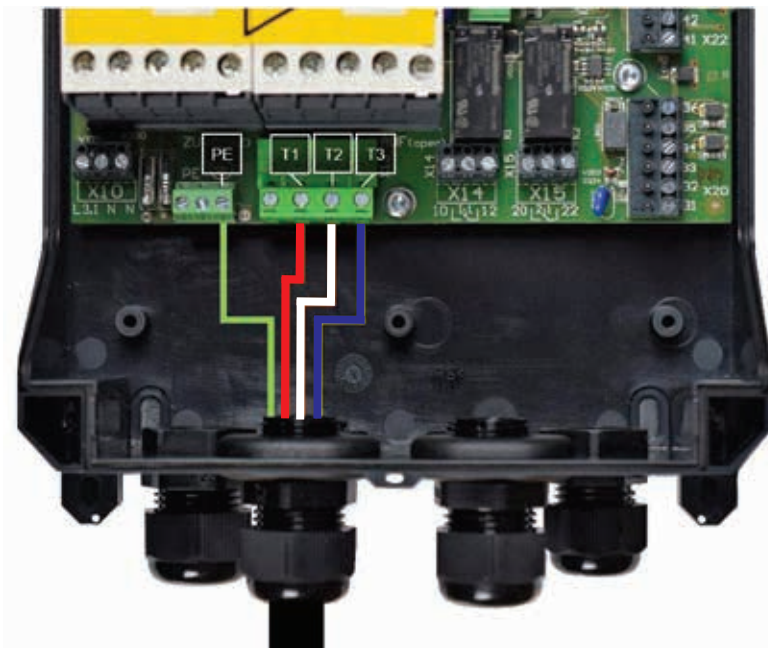


4. DDC-22 WALL CONTROLLER

4.6.4 MOTOR WIRING TO WALL CONTROLLER

Wire motor power to the connections shown in the diagram.

Phases to T1, T2, T3 and Earth to PE.

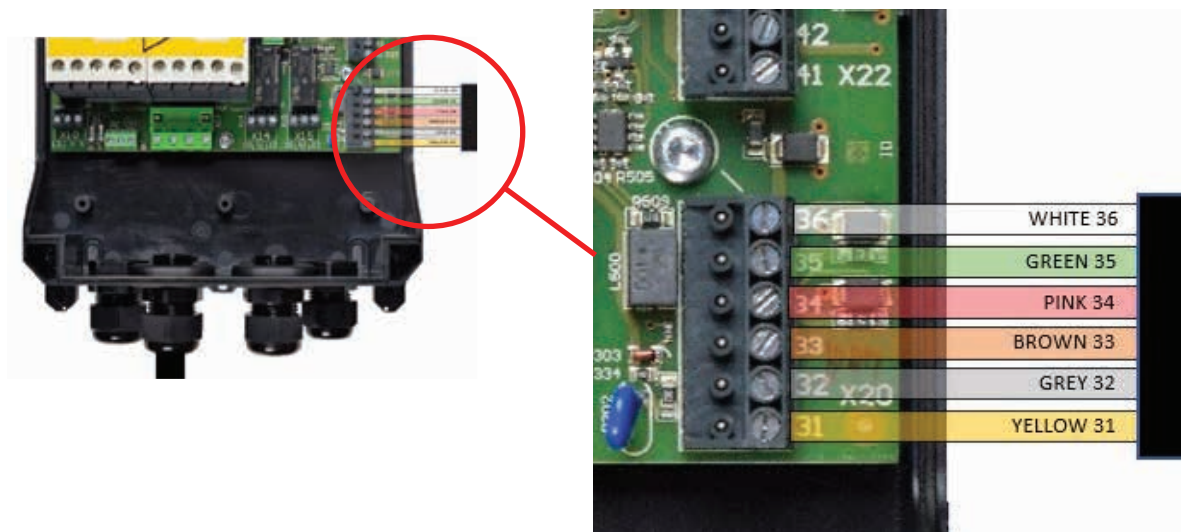


4.6.5 ENCODER WIRING TO WALL CONTROLLER - OPERATORS WITH NO SOLENOID BRAKE

Solenoid brakes are not used on Operators GDDO-42-11 or GDDO-55-11.

For these models:

Connect the encoder cable to Pins 31 to 36 with the wire colours indicated in the diagram.



Encoder cables are supplied fitted to PCB connectors, ready to swap with the PCB connector fitted to the controller.

1. Remove the connector on the PCB and discard.
2. Fit the encoder cable connector to the PCB.

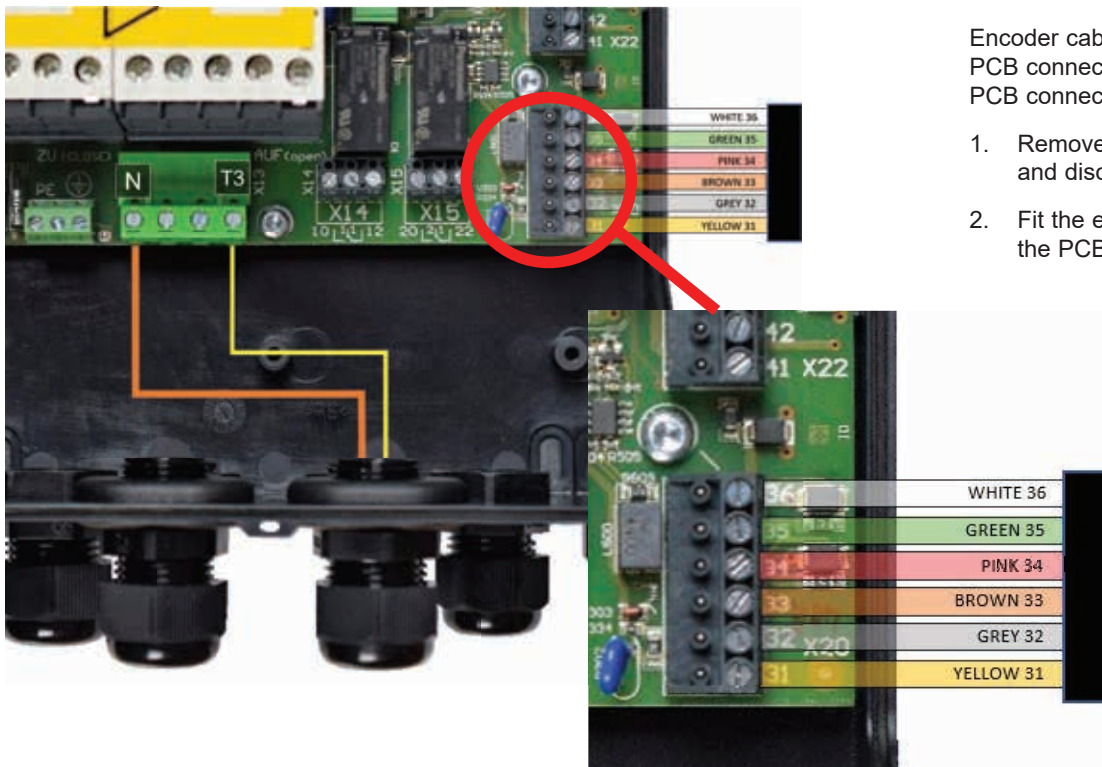
4. DDC-22 WALL CONTROLLER

4.6.6 ENCODER WIRING TO WALL CONTROLLER - OPERATORS WITH SOLENOID BRAKE

Solenoid brakes are used on GDDO-75-10, GDDO-100-10, GDDO-140-09, GCDO-45-23.

For these models:

1. Connect one end of the internal operator solenoid brake cable to T3.
2. Connect the other end of the internal operator solenoid brake connection to the N of the motor power connections.
3. Connect the encoder cable to numbers 31 to 36 with the wire colours indicated in the diagram.

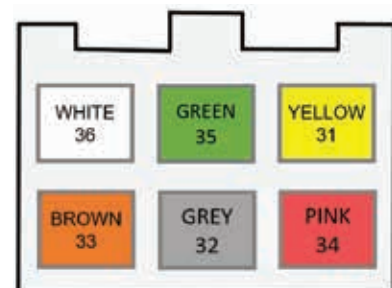


4.6.7 ENCODER AND SOLENOID BRAKE RECTIFIER WIRING AT OPERATOR

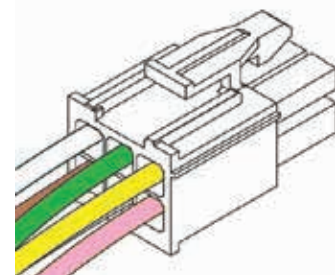
All operators are factory fitted with encoder wires and solenoid brake wires connected.

For reference when using a solenoid cable spare part (EC-8 or EC-12), which includes 2 Black solenoid brake connection wires, connect these wires to the connection block marked with ~, as shown.

Connection is not polarity sensitive.



As viewed from female side



4. DDC-22 WALL CONTROLLER

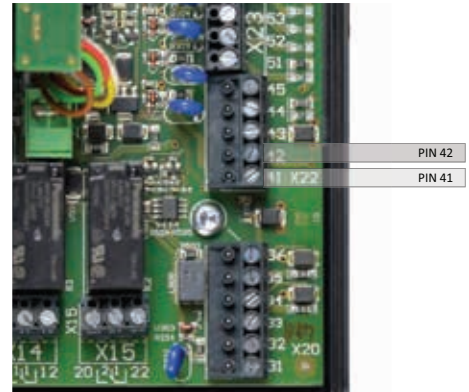
4.6.8 SAFETY BRAKE WIRING - OPERATORS WITH MECHANICAL SAFETY BRAKE

It is recommended that a Mechanical Safety Brake is installed on all Chain Drive installations. Refer to D-Drive Operator Manual for details on the mechanical installation of a Mechanical Safety Brake. The actuation of a Safety Brake is required in the event of a drive chain breakage, to prevent the curtain from falling.

If using this controller in conjunction with the GCDO-45-23 chain driven operator a mechanical safety brake must be wired into E-Stop 1 on Pins 41 and 42.

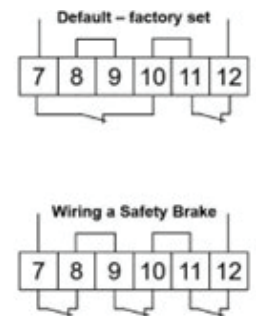
Use to following connection to wire the Safety Brake to the Wall Controller:

PIN	INPUT	DESCRIPTION
42	E-Stop 1	Emergency Stop EXT 12
41	E-Stop 1	Emergency Stop EXT 11



Alternatively, the Safety Brake can be wired directly into the Encoder (on the operator side) as shown below:

1. Remove one wire from the Hauling Chain (7) and relocate to position 9.
2. Install the Safety Brake wires to position 7 and 8.
3. Install link wire between pins 41 and 42 on the wall controller.

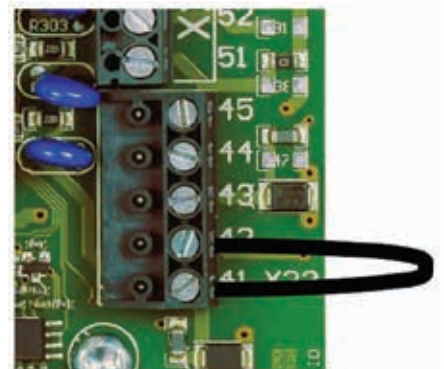


Note: Wire Safety Brake Switch in series with existing switches.

4.6.9 SAFETY BRAKE WIRING - OPERATORS WITHOUT MECHANICAL SAFETY BRAKE

IMPORTANT

For installation that do not require a Mechanical Safety Brake, such as Direct Drive models, or installations where the Mechanical Safety Brake has been connected via the Encoder, a link wire is required at E-Stop 1 (bridge terminals 41 and 42) to enable operation of the unit.



4. DDC-22 WALL CONTROLLER

4.6.10 FERRITE INSTALLATION

Ferrite chokes are not required to be installed on Contactor models.

4.6.11 COMPLETING SET-UP

Mains and operator wiring is now complete.

Proceed to the section for Entrapment Protection Devices or Commissioning to complete set-up.

5. ENTRAPMENT PROTECTION DEVICES

5.1 GENERAL INFORMATION



All optional wiring must be performed with power off and supply disconnected.



The D-Drive Wall Controllers are pre-configured to Latch Up/Latch Down behaviour and require Entrapment Protection Devices to be installed.

The default setting is for relay safety beams to be installed and connected as outlined below. If an alternate Entrapment Protection Device is installed, the Safety Beam input will need to be disabled and the alternate device input enabled.



If no Entrapment Protection Devices are installed, the Safety Beam input will need to be disabled and Latching Behaviour re-configured. Failure to do so will result in the controller displaying information codes.

The wall controller will default to Inch Up/Inch Down mode with no Entrapment Protection devices connected and enabled.

5.1.1 COMPATIBLE GRIFCO ENTRAPMENT PROTECTION DEVICES

Compatible Grifco entrapment protection devices are:

NOTE: Photo beams must change state when energised to be compatible.

PART NUMBER	DESCRIPTION
PB008	Universal Reflective Safety Beam Kit, including beam, reflector and 9m lead and mounting hardware
PB060	Universal Reflective PE Beam Kit, including Transmitter, receiver with 20m lead and mounting hardware
GLCPS	Grifco Light Curtain Protection System including mounting frame, beams, mounting system and 20m cable
BMSE##K	Safety Edge Kit including Bi-Metal safety edge, end caps, connection cable and mounting hardware (## 3.0m to 9.0m lengths)
GPS15	 Not compatible with D-Drive Wall Controllers
GPS772	 Not compatible with D-Drive Wall Controllers

5.1.2 SAFETY BEAM WIRING AND CONFIGURATION - FUNCTIONAL TEST

The Wall Controller will self-test the entrapment protection device at each cycle to ensure the device is operating correctly.

For the DDC-22 Single Speed Controller:

Relay Output X15 (Pins 20, 21 and 22) should be used for the wiring of an IR entrapment protection device. This relay is configured to toggle momentarily once the door reaches the top limit thereby performing a functional check of the IR entrapment protection device.

Parameter settings are configured by default. Check parameter P.505 is set to 520 (Input activation), P55A set to 0001 (Safety Beam Self Test) and P.702 set to 2501 (X15 self test) to ensure correct operation of the relay.

5. ENTRAPMENT PROTECTION DEVICES

5.2 SAFETY BEAM WIRING

5.2.1 SINGLE PB008 - DDC-22

Connect the PB008 Safety Beam as shown below.

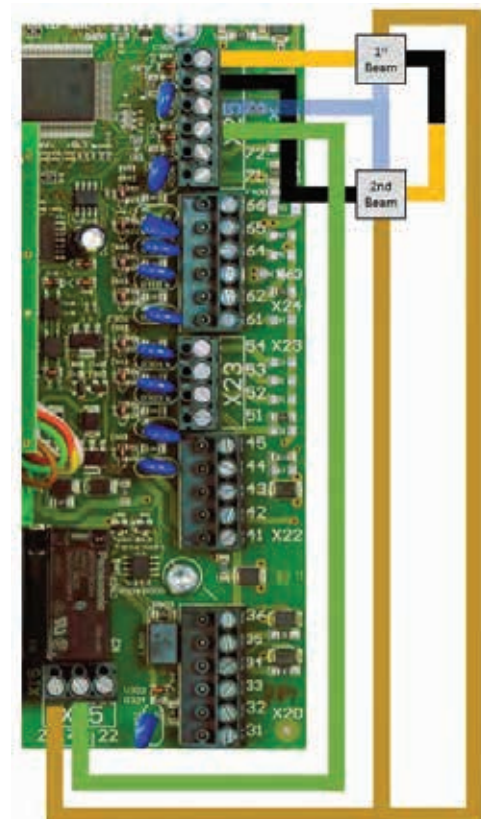
1. Connect Yellow wire to Pin 76.
2. Connect Black wire to Pin 75.
3. Connect Blue wire to Pin 74.
4. Connect Brown wire to Pin 20 (X15 Relay).
5. Connect link wire (not supplied) between Pin 21 and Pin 73.



5.2.2 DUAL PB008 - DDC-22

If a second set of PB008 Safety Beams are required, wire the outputs in series as described below:

1. Connect first Safety Beam Yellow wire to Pin 76.
2. Join first Safety Beam Black wire to second Safety Beam Yellow wire.
3. Connect second Safety Beam Black wire to Pin 75.
4. Connect Blue wire from both Safety Beams to Pin 74.
5. Connect Brown wire from both Safety Beams to Pin 20.
6. Connect link wire (not supplied) between Pin 21 and Pin 73.



5. ENTRAPMENT PROTECTION DEVICES

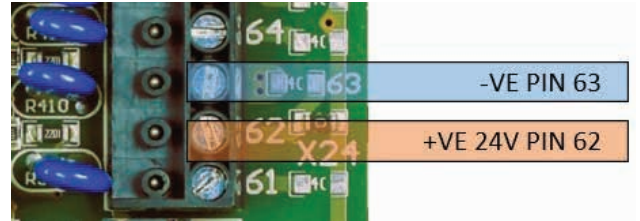
5.2.3 SINGLE AND DUAL PB060 – DDC-22

Connect the PB060 Safety Beam receiver as per the PB008 instructions above.as shown below.
Connect the PB060 Safety Beam transmitter to the Auxiliary 24VDC output (Pins 62 and 63) as shown below.

1. Connect the PB060 Safety Beam receiver as per the PB008 instructions above.as shown in 5.2.3.
2. Connect the PB060 Safety Beam transmitter to the Auxiliary 24VDC output (Pins 62 and 63) as shown right.

If a second set of PB060 Safety Beams are required:

1. Connect the Blue wire of both Safety Beam transmitter to Pin 63
2. Connect Brown wire from both Safety Beam transmitter to Pin 62 .



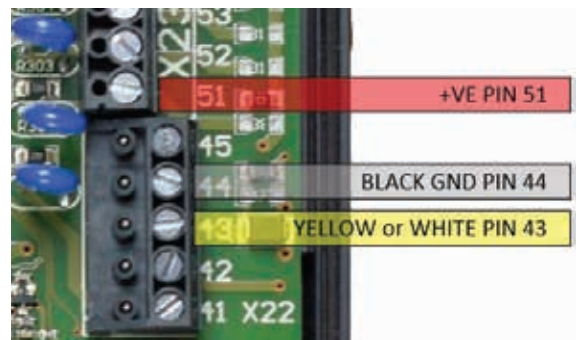
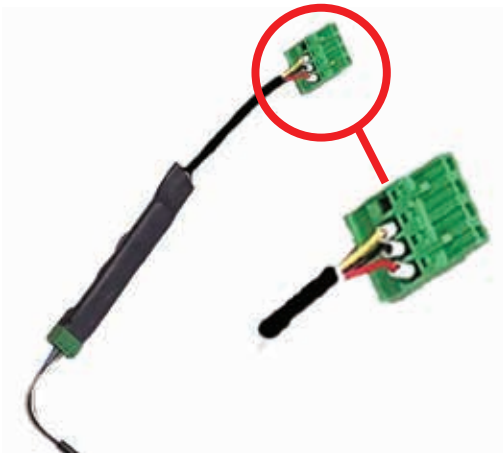
DDC-22

5.3 SINGLE LIGHT CURTAIN GLCPS - DDC-22

NOTE: Prior to connecting the GLCPS Light Curtain, ensure the door is in the closed position and parameter P.460 is set to 6.

Connect the GLCPS Light Curtain as shown below.

1. Remove the pre-fitted terminal block from the GLCPS voltage regulator (shown Below).
2. Connect Red wire to Pin 51.
3. Connect Black wire to Pin 44.
4. Connect Yellow (or White) wire to Pin 43.



DDC-22

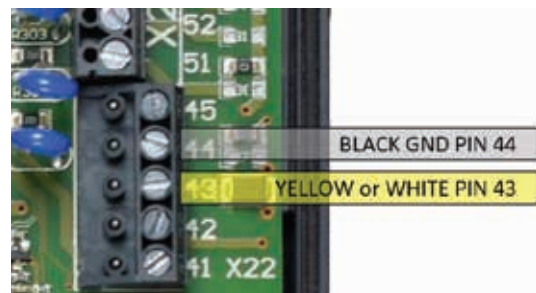
5.4 SAFETY EDGE BMSE##K - DDC-22

Connect an 8.2K Ω resistive Safety Edge as shown below.

1. Connect one wire of the BMSE##K to Pin 44.
2. Connect the other wire of the BMSE##K to Pin 43.

To enable the Safety Edge input, set P.460 to 00006 and perform a power cycle.

To disable the Safety Edge input, set P.460 to 0000 and perform a power cycle.



DDC-22

Refer to Parameter Setting section to set-up (Ensure parameter setting P.460 is set to 6 and perform a Power Cycle.)

6. RECEIVERS - ACCESS CONTROL - AUTO/MAN WIRING

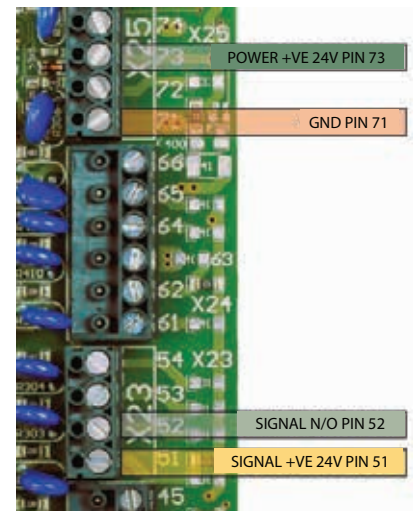
6.0 RECEIVERS – ACCESS CONTROL – AUTO/MAN WIRING

6.1 RECEIVER WIRING

The Wall Controller does not have an onboard receiver.

A receiver such as the STAR1000 or 3-Channel Universal Receiver (Model E8003) can be installed by:

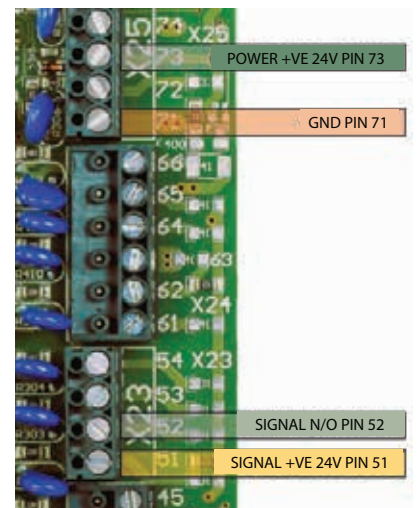
1. Connecting power to Pins 71 and 73
2. a) Connect N/O contact from the receiver to Open Only Input (Pins 51 and 52), as shown.
Enable Auto Close by installing a link wire between Pins 62 and 65.
Default Auto Close time is set to 10s.
b) Alternatively, connect N/O contact from the receiver to Toggle Input (Pins 72 and 73) for OPN/CLS.
If Auto Close is enabled, this will become OPEN ONLY.



6.2 ACCESS CONTROL WIRING

Access control can be installed by:

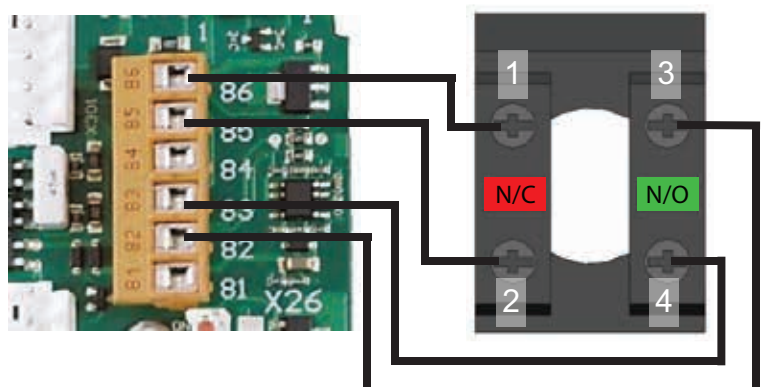
1. Connecting power to Pins 71 and 73
2. a) Connect N/O contact from the receiver to Open Only Input (Pins 51 and 52), as shown.
Enable Auto Close by installing a link wire between Pins 62 and 65.
Default Auto Close time is set to 10s.
b) Alternatively, connect N/O contact from the receiver to Toggle Input (Pins 72 and 73) for OPN/CLS.
If Auto Close is enabled, this will become OPEN ONLY.



6.3 AUTO/MANUAL KEYSWITCH CONTROL WIRING

The KS112 Lock-It-Well Auto/Man keyswitch can be installed by:

1. Connect the N/C contact #1 on the KS112 to Pin 86
2. Connect the N/C contact #2 on the KS112 to Pin 85
3. Connect the N/O contact #3 on the KS112 to Pin 82
4. Connect the N/O contact #4 on the KS112 to Pin 83
5. Set Parameters P.506 to 0402, P.570 to 0010 and P.571 to 0005.



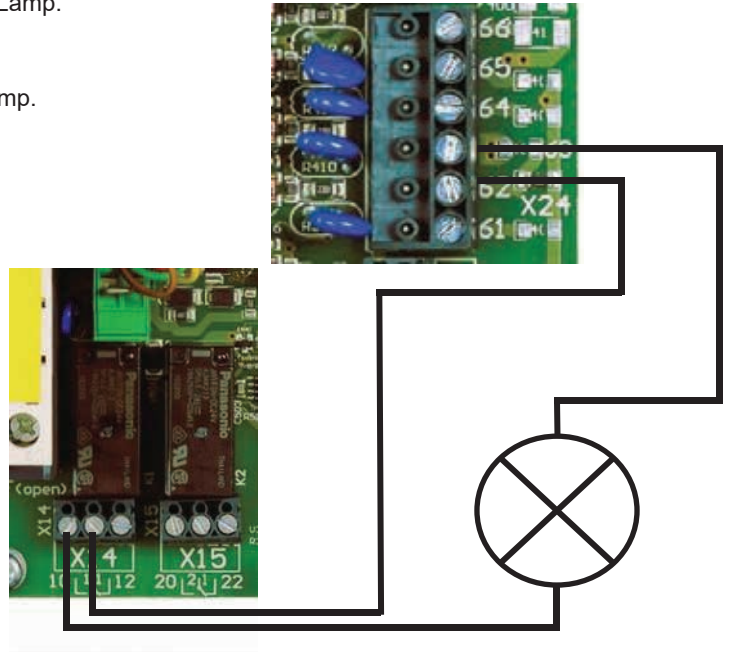
7. ADDITIONAL AUXILIARY WIRING

7.1 WARNING LIGHTS AND SOUNDERS

There are two onboard mechanical relay outputs located at the bottom edge of the board .

Relay X-14 is pre-configured to be energised when the door is moving.

1. Connect GND (Pin 63) to DC – on the 24VDC Sounder or Lamp.
2. Connect 24VDC (Pin 62) To X-14 Pin 11
3. Connect X-14 Pin 10 to DC+ on the 24VDC Sounder or Lamp.

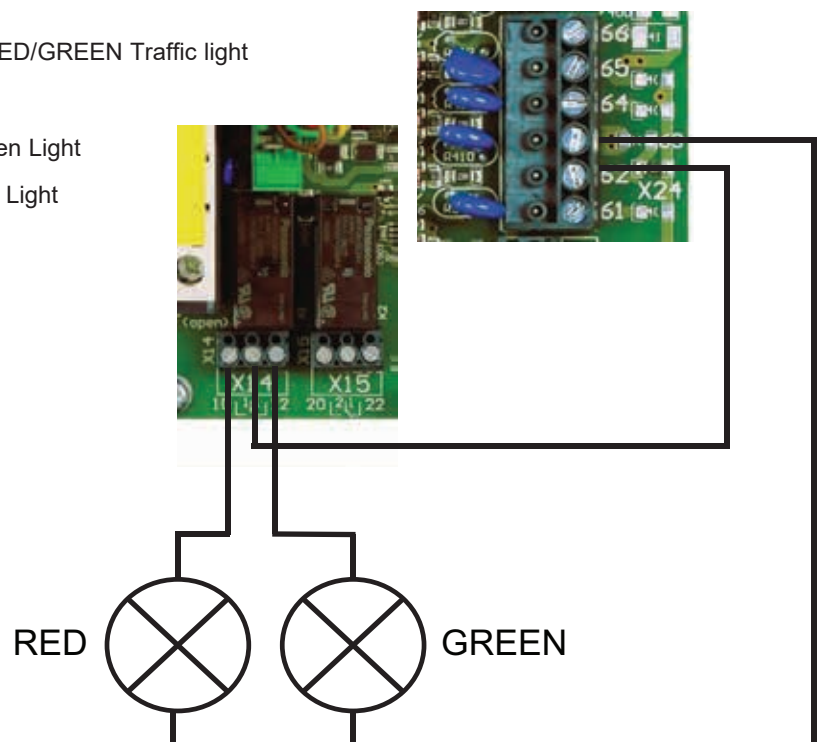


7.2 TRAFFIC LIGHT

X-14 is available to be used to control a traffic light. Functionality will be:

- Door CLOSED – RED ON
- Door moving – RED/GREEN alternating flash
- Door OPEN _ GREEN ON

1. Connect GND (Pin 63) to DC – on the 24VDC RED/GREEN Traffic light
2. Connect 24VDC (Pin 62) To X-14 Pin 11
3. Connect X-14 Pin 12 to DC+ on the 24VDC Green Light
4. Connect X-14 Pin 10 to DC+ on the 24VDC Red Light
5. Set P.701 to 1253



8. ESSENTIAL PROGRAMMING INFORMATION

8.0 ESSENTIAL PROGRAMMING INFORMATION

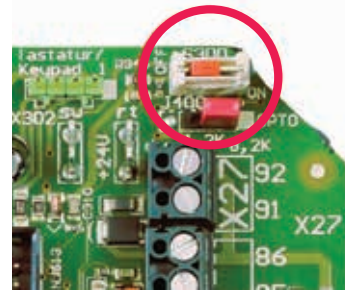
8.1 ESSENTIAL INFORMATION

1. The Variable Speed Wall Controllers are pre-configured to suit the Operator Type.
The initial set-up requires the Installer to select the Operator type prior to Limit set-up.
2. When using the fascia buttons, the installer is required to press the buttons for different durations
 - Short Press: Used to enter and exit parameters
 - Medium Press: Used to confirm a parameter change. Approx 3 seconds or until the display stops flashing
 - Long Press: Used to exit from Parameter Mode to Standby Mode. Approx 5 seconds until the display changes
3. Safety beams, Latch Up/Latch Down and Auto-Close are enabled by default.
If Safety Beams are not installed, other Entrapment Protection Devices are recommended.
When deactivating the Safety Beam input, ensure Latching Behaviour is reconfigured to suit the Entrapment Protection Device installed.
4. Mechanical Safety Brakes are required for Chain Driven Operators. The Mechanical Safety Brake is connected to either the Wall Controller PCB or the Operator Encoder.
5. All Installations require either the Mechanical Safety Brake connected to E-Stop 1 (Pins 41/42) or a link wire must be installed.

8.2 SERVICE SWITCH

The purpose of the Service Switch is to Enable (ON) (by default) or Disable (OFF) the high level advanced Parameter settings via the fascia buttons.

The Service Switch DIP switch can be found on the board, shown below.



Top right hand corner



CAUTION

Set Service Switch to OFF to avoid tampering of settings.

8.3 INFORMATION CODES

The following messages may be displayed before Initial Set-up or after. The Information Codes will alert the user to activated inputs.

CODE	DESCRIPTION	
E.105	Safety Beam faulty, not connected, obstructed or mis-aligned	Check Safety beam. If no beam, installed Disable Input
F.211	External Safety Brake or Wire Link (Pin 41/42) not connected	Check Mechanical Safety Brake. If no brake, check Link Wire
F.212	Hand Chain Engaged, Motor Thermal or Mechanical Safety Brake (if connected to Encoder)	Check Hand Chain and Mechanical Safety Brake (if wired to the encoder)
E.360	Safety Edge or Light Curtain not configured	Check the Bump edge or Light Curtain.
F.369	Safety Edge or Light Curtain not configured	Check P.460 to ensure the Input is configured

9. INITIAL COMMISSIONING

9.0 INITIAL COMMISSIONING

9.1 INITIAL CONTROLLER SET-UP AND LIMIT SETTINGS

For the DDC-22 Wall Controller a profile selection not required.



For DDI-07, DDI-12 and DDI-15 Wall Controllers proceed to Step 1

1. Energise the Wall Controller.
2. Wait until the controller is automatically enters Calibration Mode, indicated by the display. This may take up to 30 seconds.
3. Press the STOP button briefly to enter P.991 Parameter Setting
4. Check door direction by pressing the UP button. If the door is opening, proceed to Step 8. If the door is closing:
 - a. Isolate power. Wait for the controller to fully power down.
 - b. Open the enclosure.
 - c. Swap the two wires connected to motor terminals T1 and T2.
 - d. Close the enclosure and energise.
 - e. Power Cycle the controller.
 - f. Wait until the controller automatically enters Calibration Mode, indicated by the display.
 - g. Press STOP briefly to enter Closed Limit Setting mode.
 - h. Check door direction by pressing the UP button.
5. Use the DOWN button to move the door to the desired close position.
6. Press and hold the STOP button for 3 seconds to save the setting.
7. Use the UP button to move the door to the desired open position.
8. Press and hold the STOP button for 3 seconds to save the setting.
9. Once the limits have been set, use the UP and DOWN buttons to move the door to the open and closed positions several times to ensure the door stops at the desired position.



10. ADVANCED COMMISSIONING

10.0 ADVANCED COMMISSIONING

10.1 TIMING OUT



CAUTION

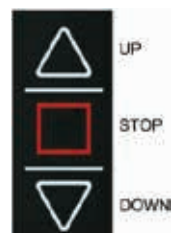
The Wall Controller will time-out from the Parameter Operation mode after 60 minutes of inactivity.

After 60 minutes of inactivity the Wall Controller will time-out, requiring the unit to be Power Reset (see below). After a power cycle, parameter setting P.999 will need to be reset to 0003, to enable Advanced Parameter settings

10.2 ENTER BASIC PARAMETER MODE

Use the follow procedure to enter the Parameter Operation mode (limited number of parameters available).

1. Isolate power. Open the enclosure and set Service Switch to ON to enable Service Mode.
2. Close the cover of the enclosure and energise the controller.
3. Press and hold the UP and STOP buttons for 3 seconds to enter the Parameter Selection mode.
4. Use the UP and DOWN buttons to navigate though the available parameters



10. ADVANCED COMMISSIONING

10.3 ENTER ADVANCED PARAMETER MODE

1. Isolate power. Open the enclosure and set Service Switch to ON to enable Service Mode.
2. Close the cover of the enclosure and energise the controller.
3. Press and hold the UP and STOP buttons for 3 seconds to enter the Parameter Selection mode.
4. Use the UP and Down buttons to navigate to P.999.
5. Press the Stop button briefly. Use the Up button to navigate to 0003
6. Press Stop for 3 seconds (or until the display stops flashing) to save the new value.
7. Press the Stop button briefly to exit.
8. Use the UP or DOWN buttons to navigate to Parameters listed in the Advanced Parameter Guide.
9. Press STOP briefly to enter the parameter.
10. Use the UP or DOWN buttons to change the value to of the parameter.
11. Press and hold the STOP button for 3 seconds to save the new value.
12. Press STOP briefly to return to Parameter Setting menu.
13. Press and hold the STOP button for 3 seconds to exit Parameter Selection Mode.



10.4 ACTIVATING ENTRAPMENT PROTECTION DEVICES

The safety beams (input 5) are activated by default. Use the following parameters settings to activate or deactivate connected Entrapment Protection Devices.

Check settings by entering Advanced Parameter.

SAFETY BEAMS PB008 and PB060 DDC-22	Activation	P.505 = 0520 (Activate Input 5) P55A = 0001 (Activate Functional Test of Input 5) P.702 = 2501 (Activate relay X-15) P.980 = 0000 (Activate Latch Up/Latch Down behavior)
	Deactivation	P.505 = 0000 (Deactivate Input 5) P.980 = 0001 (Activate Latch Up/ Inch Down behaviour)
LIGHT CURTAIN GLCPS DDC-22	Activation	P.460 = 0006 (Autodetect Safety Edge or Light Curtain) P.980 = 0000 (Activate Latch Up/Latch Down behavior) Power Cycle to complete the activation
	Deactivation	P.460 = 0000 (Deactivate Safety Edge or Light Curtain) P.980 = 0001 (Activate Latch Up/ Inch Down behaviour) Power Cycle to complete the deactivation
BUMP EDGE BMSE##K DDC-22	Activation	P.460 = 0006 (Autodetect Safety Edge or Light Curtain) P.980 = 0000 (Activate Latch Up/Latch Down behavior) Power Cycle to complete the activation
	Deactivation	P.460 = 0000 (Deactivate Safety Edge or Light Curtain) P.980 = 0001 (Activate Latch Up/ Inch Down behaviour) Power Cycle to complete the deactivation

10.5 DOOR BEHAVIOUR SETUP

By default, the controller is set to Latch Up and Latch Down mode.

If Safety beams are not installed on Input 5, the controller will display the message E.105, and the controller will be in Latch-Up / Inch-Down mode.

Navigate to Parameter setting mode by pressing and holding UP and STOP for 3 seconds.

Use the UP or DOWN buttons to navigate to P980 and press STOP briefly.

Use the UP or DOWN buttons to select the parameter. Press STOP for 3 seconds (until the display stops flashing) to confirm.

LATCH UP / LATCH DOWN (DEFAULT)	To configure the controller to Latch Up / Latch Down mode.	P.980 = 0000
LATCH UP / INCH DOWN	To configure the controller to Latch Up / Inch Down mode.	P.980 = 0001
INCH UP / INCH DOWN	To configure the controller to Inch Up / Inch Down mode.	P.980 = 0002

10. ADVANCED COMMISSIONING

10.6 AUTO-CLOSE SETUP

By default, the controller is set Auto-Close after 10 seconds.
A link wire is required to bridge INPUT 10 (Pins 65/62) to enable Auto-Close.

1. Enter the Parameter Operation mode.
2. Use the UP/DOWN buttons to navigate to p.010.
3. Press the Stop button briefly. Use the Up/Down button to select the duration.
4. Press Stop for 3 seconds (or until the display stops flashing) to save the new value.
5. Press the Stop button briefly to exit.
6. Press and hold the STOP button for 3 seconds to exit Parameter Selection Mode.

11. RESET OPTIONS

11.0 RESET OPTIONS

11.1 SOFT RESET

To power cycle reset or soft reset hold 3-buttons on the front panel (UP/STOP/DOWN) for 3 seconds.

11.2 FACTORY RESET

To reset all parameters to "Factory Default" ready for initial commissioning.

1. Isolate power. Open the enclosure and set Service Switch to ON to enable Service Mode.
2. Close the cover of the enclosure and energise the controller.
3. Press and hold the UP and STOP buttons for 3 seconds to enter the Parameter Selection mode.
4. Use the UP and Down buttons to navigate to P.999.
5. Press the Stop button briefly. Use the Up button to navigate to 0003
6. Press Stop for 3 seconds (or until the display stops flashing) to save the new value.
7. Press the Stop button briefly to exit
8. Use the UP and DOWN arrows to navigate to P.990
9. Press the Stop button briefly. Use the Up button to navigate to 0001
10. Press Stop for 3 seconds (or until the display stops flashing) to save the new setting.
11. The Display will change to PROG before changing to P.991.
12. Power Cycle to confirm Factory Reset



11.3 FORCED FACTORY RESET

To force a locked wall controller to FACTORY RESET and reset all parameters to "Factory Default" ready for initial commissioning.

1. Isolate power. Open the enclosure and set Service Switch to ON to enable Service Mode, and close the cover of the enclosure.
2. Press and hold the UP button while energising the controller.
3. Use the UP and Down buttons to navigate to P.999.
4. Press the Stop button briefly. Use the Up button to navigate to 0003
5. Press Stop for 3 seconds (or until the display stops flashing) to save the new value.
6. Press the Stop button briefly to exit
7. Use the UP and DOWN arrows to navigate to P.990
8. Press the Stop button briefly. Use the Up button to navigate to 0001
9. Press Stop for 3 seconds (or until the display stops flashing) to save the new setting.
10. The Display will change to PROG before changing to P.991.
11. Power Cycle to confirm Factory Reset



12. ADVANCED OPTIONS

12.0 ADVANCED OPTIONS

12.1 SETTING UP A PROGRAMMABLE INPUT

Select the Input number that you wish to use from the table below.

INPUT	PIN	PARAMETER	DDC-22 DEFAULT
1	52	P.501	0101
2	53	P.502	0402
3	54	P.503	0701
4	72	P.504	0201
5	75	P.505	0520
6	82	P.506	0301
7	85	P.507	0601
8	61	P.508	0801
9	64	P.509	0903
10	65	P.50A	1001

Select the programmable Input Profile from the table below.

VALUE	FUNCTION	VALUE	FUNCTION
0000	OFF (disable input)	0701	CLOSE with clearance timer
0101	OPEN to full open position, with auto close and pre-warning delay (if set). N/O Contact	0801	CLOSE with pre-warning delay (if set). N/O Contact
0102	OPEN to optional mid-limit position (if set) with auto close and pre-warning delay (if set). N/O Contact	0802	INTERLOCK IN CLOSED POSITION. No deadman INTERLOCK in closed position. Deadman override possible.
0106	OPEN2 to full open position from inside, with auto close & clearance timers	0903	BYPASS Mid Limit
0110	OPEN1 to full open position from outside, with auto close & clearance timers	1001	DISABLE auto close time
0201	IMPULSE open & close (reversing closing) with auto close & clearance timers	1003	Disable intermediate stop, NO contact
0301	Permanent-OPEN, NO contact, 1. Intermediate stop 2. OPEN, without hold open time, without clearance time, both directions	1004	DISABLE commands from outside
0402	Stop-command, N/O contact	1405	PHOTOCELL stop & reverse during opening, pause when closing
0501	PHOTOCELL stop & reverse when closing	1422	SAFETY EDGE stop & when opening. Suitable for 8k2 Input only (e.g. Input 10)
0520	Safety: Reversing when CLOSING, NO contact, with testing in end position OPEN	1612	SAFETY EDGE free ride when opening. Suitable for 8k2 Input only (e.g. Input 10)
0601	Manual operation for OPENING and CLOSING, NO contact	1801	LOOP1 Loop detector parameter p.66x

12. ADVANCED OPTIONS

12.2 SETTING UP A PROGRAMMABLE OUTPUT

Select the Output number that you wish to use from the table below.

OUTPUT	PIN	PARAMETER	DDC-22 DEFAULT
1	X14 – 10,11,12	P.701	0703
2	X15 – 20,21,22	P.702	2501
15	X24 – 66	P.70F	0001

Select the programmable Relay (Output) Profile from the table below.

VALUE	FUNCTION	VALUE	FUNCTION
0000	OFF (disable)	1101	Energise Maglock in closed position
0001	ON (permanently)	1102	Energise Maglock in closed position and during closing
0101	OPEN position	1201	GREEN traffic light - mounted inside
0201	CLOSED position	1210	GREEN traffic light - mounted outside
0401	no faults/errors - system OK	1224	RED traffic light - mounted inside
0501	Courtesy light with 10 sec of delay	1255	RED traffic light - mounted outside
0701	Flashing during opening and closing	1701	Testing in CLOSED position
0703	ON during opening and closing	2501	Testing in OPEN position
0801	ON during operating and closing and parameter warning/clearance times	3201	BRAKE function

Refer to the Advanced Parameters manual (available on request from Grifco) for a full list of settings and functions.

12.3 SETTING A MID-LIMIT POSITION

An optional mid-limit can be set as per the table below:

PARAMETER	RANGE	DESCRIPTION
P.241	5% - 95%	This parameter adjusts the mid-limit position as a percentage of the fully open position
P.244	N/A	This parameter uses preset mid-limit positions
	50% OPEN	0000 – no mid-limit
	66% OPEN	0001 – 50% of the fully open position
		002 – 66% of the fully open position

Once a mid-limit has been set, an input must be programmed to open the door to that mid-limit.

e.g. to program Input 1 (Pins 51/52) to open to the mid-limit, set P501 to setting 0102

13. GENERAL INFORMATION

GENERAL MESSAGES	
STOP	Stop / Reset state, wait for next incoming command
Ec	Lower limit position
≡Ec≡	Lower limit position locked → raising not possible (e.g., lock-door)
ZUF@	Closing active
-Eo-	Upper limit position
≡Eo≡	Upper limit position locked → closing not possible (e.g., safety edge)
@OPE	Opening active
CLS@	Closing active
-E1-	Middle limit position E1 (intermediate stop position)
≡E1≡	Upper limit position → locked closing not possible (e.g., safety edge)
FAIL	Fault → only deadman travel is possible, automatic opening may also be possible
"CALI:	Calibration → setting the limit positions in deadman travel mode (for absolute encoder) → Start procedure using STOP key
≡NA≡	E-stop → Travel not possible, hardware safety chain interrupted
HdSA:	E-travel → Deadman travel without regard for safety facilities, etc.
'Hd'	Manual → Deadman mode
ParA	Parametrization
SYNC:	Synchronization (incremental encoder / limit switch → Pos.unknown)
'Au'	Automatic → indicates change from "Manual" to "Automatic" status
'Hc'	Semi automatic → indicates change from "Manual" to "Semi-automatic"
WU:	First display after switching on (Power Up and Self-test)
STATUS MESSAGES DURING CALIBRATION	
E.i.E.c.:	Calibration of the lower limit position requested (in deadman travel)
E.i.E.o.:	Calibration of the lower limit position requested (in deadman travel)
E.i.E.1	Calibration of intermediate position E1 (in deadman travel)
STATUS MESSAGES DURING SYNCHRONIZATION:	
S.y.E.c.:	Synchronization of lower limit position requested (deadman or wait for starting condition)
S.y.E.o.	Synchronization of lower upper position requested (deadman or wait for starting condition)
S.y.E.1	Synchronization of intermediate stop position E1 (in deadman mode)
S.y.op:	Automatic opening up to mechanical stop, then automatic synchronization of upper limit position
S.y.cL	Automatic closing taking into account safeties up to mechanical stop, followed by automatic synchronization of lower limit position
S.y.c≡	Automatic closing is locked due to request A
STATUS MESSAGES DURING DEADMAN MOVEMENT:	
Hd.cL	Deadman closing (membrane key: CLOSE)
Hd.oP	Deadman closing (membrane key: OPEN)
Hd.Eu	Lower limit position reached, no further deadman closing possible
Hd.Eo	Upper limit position reached, no further deadman opening possible
Hd.Ao	Outside of permitted Eo position (no deadman opening possible)
INFORMATION MESSAGES DURING THE PARAMETER CONFIGURATION:	
noEr	Error memory: no error saved
Er--	Error memory: if error but without associated message being found
Prog	Programming message while carrying out original parameter or default set

14. COMMON PROGRAM PARAMETERS

SETTING	CODE	DESCRIPTION	ADVANCED PARAMETER
Door Cycle Counter	P.000	The content of this parameter indicates the number of previously counted cycles.	
Maintenance Counter	P.005	The content of this parameter indicates the number of cycles remaining until maintenance is due.	
Auto Close Timer	P.010	The door is held at the open limit for the set time. The door is then automatically closed. NOTE: A wire link is required at INPUT 10 (bridge terminals 65 and 62) to enable auto close.	
Boost for OPEN	P.140	The boost increases the output voltage and thus the power in the lower speed range until the cut-off frequency (P.100) is reached. Range of boost is from 0% to 30%.	
Limit Setting	P.210	This parameter is used to start a new teaching of the end positions. The corresponding end positions are moved to in deadman mode after activating the procedure and saved by holding down the Stop key. Select from the following settings: 0: Cancel, no end positions are taught. 1: Limit switch Lower, limit switch Upper and if appropriate limit switch Intermediate Stop are taught. 2: Limit switch Upper and if appropriate limit switch Intermediate Stop are taught. 3: Limit switch Lower and limit switch Upper are taught. 4: Limit switch Intermediate Stop is taught. 5: All limit switches and the turn direction are taught.	
Bottom Limit Adjust	P.221	Correction of Closed Limit position. Range from -125 to +125 - = Lower + = Higher	
Top Limit Adjust	P.231	Correction of Open Limit position. Range from -60 to +60	
Open Travel Speed	P.310	Opening speed in Hz. (NOTE: Setting to more than 75Hz will reduce power and the life of the operator and controller)	
Close Travel Speed	P.350	Closing speed in Hz. (NOTE: Setting to more than 75Hz will reduce power and the life of the operator and controller)	
Safety Bump Edge	P.460	Ensure this is set to 6 for use with a Safety Edge. If this is set to 0 the Safety Edge will be deactivated	YES
Input Settings	P.501 – P.50F	Input Parameter settings for Input 1 through to 15.	YES
Output Settings – On board Relays	P.701 – P702	Output Parameter settings for the onboard mechanical relays at 10, 11, 12 and 20, 21, 22. See Advanced Parameters manual for further configuration options	YES
Output Settings – Soft and Expansion	P.703 – P.70F	Output Parameter settings for soft outputs 3 through to 15.	YES
Inch/Latch Mode	P.980	This parameter is used to set the operating mode for the controller. 0. OPEN and CLOSE move in self-holding (latch up and down) 1. OPEN move in self-holding, CLOSE move in manual mode (latch up, inch down) 2. OPEN and CLOSE move in Manual mode (deadman – inch up and down) 3. Deadman emergency operation NOTE: All safety devices and limit switches are ignored. See P.010 for Auto Close setting	
Factory Reset	P.990	Set to 1 to perform a reset of the controller to factory settings	YES
Advanced Parameters	P.999	Set to 3 for Advanced Parameter Selection mode	

NOTE: Refer to the Advanced Parameters manual (available on request from Grifco) for a full list of settings and functions.

15. COMMON INFORMATION E CODES

GENERAL MESSAGES	
E.000	OPEN key on membrane keypad
E.050	STOP key on membrane keypad
E.090	CLOSE key on membrane keypad
E.101	Input 1 Pin 52 open is activated
E.102	Input 2 Pin 53 open is activated
E.103	Input 3 Pin 54 open is activated
E.104	Input 4 Pin 72 open is activated
E.105	Input 5 Pin 75 open is activated - Safety Beam is not installed or obstructed
E.105	Input 6 Pin 82 open is activated
E.106	Input 7 Pin 85 open is activated
E.107	Input 8 Pin 61 open is activated
E.108	Input 9 Pin 64 open is activated
E.110	Input 10 Pin 65 open is activated
SAFETY/EMERGENCY STOP CHAIN	
E.211	External E-Stop 1 tripped - Safety Brake triggered. No Link Wire installed
E.212	External E-Stop 2 tripped - Hand Chain engaged or Safety Brake triggered
SAFETY EDGE IN GENERAL	
E.360	Triggering of the safety edge - Bump Edge or Light Curtain triggered
E363	Internal safety edge faulty
E.370	Triggering of the safety edge
E.373	External safety edge fault
E.379	External safety edge activated but not yet plugged in
E.380	Triggering of the safety edge
E.383	Interruption of the safety edge
E.3F0	Triggering of the safety edge
E.3F3	Interruption of the safety edge
INDUCTIVE LOOP	
E.501	Detector channel 1
E.502	Detector channel 2
E.503	Detector channel 3
E.504	Detector channel 4

16. COMMON INFORMATION F CODES

CODE	DESCRIPTION	REASON FOR ERROR AND FIX
F.000	Door position too far up	<ul style="list-style-type: none"> • Too small a parameter value for upper emergency limit switch → increase P.239 • Upper limit switch range (limit switch band) too small → increase P.233 • Mechanical brake defective or improperly set
F.005	Outside door position too far down	<ul style="list-style-type: none"> • Too small a parameter value for lower emergency limit switch → increase P. 229 • Lower limit switch range (limit switch band) too small → increase P. 223 • Mechanical brake defective or improperly set
F.020	Run time exceeded (during opening, closing or deadman)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Door 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	<ul style="list-style-type: none"> • When using incremental encoders: Channel A and B reversed • Motor rotation direction reversed compared with calibration setting → teach in the limits new (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	<ul style="list-style-type: none"> • E-Stop chain was interrupted starting at Input 1 • Check possible Safety Brake activation • Check manual hauling chain engagement • Check external safety brake or wire link on Pins 41 and 42
F.212	External E-Stop 2 tripped	<ul style="list-style-type: none"> • E-Stop chain was interrupted starting at Input 2 • Check possible Safety Brake activation • Check kostal encoder operation
F.360	Redundancy error with short circuit	<ul style="list-style-type: none"> • Short circuit detected on edges with normally closed contact • The light beam of the optical edge is interrupted • Jumper for 1K2 / 8K2 is wrong set
F.361	Number of trips of the Safety input D, normally this is the integrated safety edge evaluation, has reached set limit (configurable in P.46E)	<ul style="list-style-type: none"> • Parameterized, maximum number of trips of the safety input D during a door cycle was exceeded → To reset close the door • In deadman mode • Check the set number of trips in P.46E
F.362	Redundancy error with short circuit	<ul style="list-style-type: none"> • One of the processing channels for short circuit detection does not react identically with the second channel → Controller • board defective, if no other error message F.3xx is shown • Dynamical optical safety edge connected but not set in Parameter P.460
F.363	Interruption on edge input	<ul style="list-style-type: none"> • Connection cable defective or not connected • Termination resistor incorrect or missing • Jumper 1K2 / 8K2 incorrectly set
F.364	Safety edge – testing failed	<ul style="list-style-type: none"> • Safety edge was not activated as expected when requesting a test. • The time between request for testing and actual testing not in agreement • The pre-limit switch is set incorrectly
F.365	Redundancy error with interruption	<ul style="list-style-type: none"> • One of the processing channels for interruption detection does not react identically with the second channel → Controller • Board defective, if no other error message F.3xx is shown • Dynamic optical system connected but not set in Parameter P.460

16. COMMON INFORMATION F CODES

CODE	DESCRIPTION	REASON FOR ERROR AND FIX
F.366	Too high a pulse frequency for optical safety edge	<ul style="list-style-type: none"> • Defective optical safety edge • Defective input for internal safety edge
F.369	Internal safety edge incorrectly parameterized	<ul style="list-style-type: none"> • An internal safety edge is connected but deactivated → set P.460 to the used edge type
F.36A	Redundancy error of the 8K2 slipdoor switch on the internal safetyedge evaluation unit	<ul style="list-style-type: none"> • One of the contacts of the redundant 8k2 slip door switch is defective • The slip door was not fully opened or closed
F.371	Number of trips of the Safety inputE, normally this is the integrated safety edge evaluation, has reached set limit (configurable in P.47E)	<ul style="list-style-type: none"> • Parameterized, maximum number of trips of the safety input E during a door cycle was exceeded → To reset close the door • In deadman mode • Check the set number of trips in P.47E
F.372	Redundancy error with short circuit	<ul style="list-style-type: none"> • One of the processing channels for short circuit detection does not react identically with the second channel. • Controller board defective
F.373	Fault in the safety edge (message comes from module)	<ul style="list-style-type: none"> • Cable break to safety edge, no edge connected, edge termination resistor incorrect or defective • Jumper for termination resistor definition in wrong position. • Safety edge processing selected with Parameter P.470, but module not plugged in or wrong module.
F.374	Safety edge – testing failed	<ul style="list-style-type: none"> • Pre-limit switch for safety edge incorrectly set or defective • Processing module defective • Safety edge defective
F.379	Safety edge detection defective (coding pin or parameter setting)	<ul style="list-style-type: none"> • No module plugged in but was reported as present by a parameter • The controller was started up with another module than the one currently plugged in
F.37A	Redundancy error of the 8K2 slip door switch on the internal safetyedge evaluation unit channel 1	<ul style="list-style-type: none"> • One of the contacts of the redundant 8k2 slip door switch is defective • The slip door was not fully opened or closed
F.410	Over-current (motor current or DC-bus)	<ul style="list-style-type: none"> • 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.420	Overvoltage in DC-bus Limit 1	<ul style="list-style-type: none"> • Brake chopper interference / defective / missing • Feed voltage much to high • Motor is generating excessive voltage - brake chopper cannot dissipate the re-generated energy.
F.425	Overvoltage line supply	<ul style="list-style-type: none"> • The supply voltage for the controller is to high
F.426	Undervoltage line supply	<ul style="list-style-type: none"> • The supply voltage for the controller is to low
F.430	Temperature heat sink outside of working range Limit 1	<ul style="list-style-type: none"> • Excessive load on power stage or brake chopper • Ambient temperature too low for controller operation • Clock frequency of power stage too high (Parameter P.160)
F.435	Housing temperature high	<ul style="list-style-type: none"> • The temperature inside the controller housing is to high
F.440	Overcurrent in DC-bus Limit 1	<ul style="list-style-type: none"> • Boost not adjusted • Motor incorrectly dimensioned for door • Door sticks
F.510	Motor / DC-bus overcurrent Limit 2	<ul style="list-style-type: none"> • 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

16. COMMON INFORMATION F CODES

CODE	DESCRIPTION	REASON FOR ERROR AND FIX
F.511	No DC supply	<ul style="list-style-type: none"> • The DC voltage cannot be given to the motor (overcurrent error, IGBT error F.519, 24 V error or over temperature) • The emergency stop is activated
F.512	Offset motor current / link current incorrect	<ul style="list-style-type: none"> • Hardware faulty
F.515	Motor protection function detected overcurrent	<ul style="list-style-type: none"> • Incorrect motor curve (motor rated current) set (P.101) • Too much boost (P.140 or P.145) • Motor incorrectly dimensioned
F.519	IGBT driver chip detected overcurrent	<ul style="list-style-type: none"> • Short circuit or ground fault on motor terminals • Motor rated current setting extremely wrong (P.100) • Extremely too much boost (P.140 or P.145) • Motor incorrectly dimensioned • Motor winding defective • Momentary interruption of the E-Stop circuit.
F.520	Overvoltage in DC-bus Limit 2	<ul style="list-style-type: none"> • Brake chopper interference / defective / missing • Incoming mains voltage much to high • Motor is generating excessive voltage - brake chopper cannot dissipate the re-generated energy
F.521	Low voltage in DC-bus	<ul style="list-style-type: none"> • Input voltage supply too low, usually at load • Load too great / final stage or brake chopper fault
F.524	ext. 24 V supply missing or too low	<ul style="list-style-type: none"> • Overload but no short circuit • When 24V is shorted the controller voltage does not ramp up and glow lamp V306 comes on.
F.525	Heatsink temperature outside of working range Limit 2	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • The temperature inside the controller housing is to high
F.540	Overcurrent in DC-bus Limit 2	<ul style="list-style-type: none"> • Boost not adjusted • Motor incorrectly dimensioned for door • Door sticks
F.700	Position sensing defective	<ul style="list-style-type: none"> • With mechanical limit switches: • At least one limit switch does not correspond to the configured active status. • An implausible combination of at least 2 active limit switches. For electronic limit switches: • After invoking activation of the factory parameters (Parameter P.990) the corresponding positioning system was not parameterized. • Calibration not completed or is incorrect and must be repeated. • When activating the intermediate stop the intermediate stop is implausible. • Synchronization not finished or reference switch defective.
F.752	Loss of communication with encoder	<ul style="list-style-type: none"> • Interface cable defective / interrupted • Channel A and B connected over cross • Absolute encoder processor electronics defective • Defective hardware or electrically noisy environment • Use a shielded control cable • Install a RC element (100Ω+100nF) at the brake
F.760	Position outside of window	<ul style="list-style-type: none"> • Position encoder drive defective • Absolute encoder processing electronics defective • Defective hardware or electrically noisy environment
F.763	DES-B Error	<ul style="list-style-type: none"> • Position encoder drive defective -> make a reset

16. COMMON INFORMATION F CODES

CODE	DESCRIPTION	REASON FOR ERROR AND FIX
F.910	No communication to expansion board possible	<ul style="list-style-type: none"> • The communication to the expansion board is not possible • No expansion board plugged in • CAN Connection interrupted (Broken cable or no supply voltage for extension board)
F.911	ROM error on extension board	<ul style="list-style-type: none"> • Wrong Flash-Code • Defective hardware or noise-saturated environment
F.912	RAM error on extension board	<ul style="list-style-type: none"> • Defective hardware or noise-saturated environment
F.920	Internal 2.5 V reference voltage incorrect	<ul style="list-style-type: none"> • Hardware defect
F.921	Internal 15 V voltage incorrect	<ul style="list-style-type: none"> • Hardware defect
F.922	E-Stop chain not complete	<ul style="list-style-type: none"> • Not all E-STOP inputs are separately jumpered although the entire E-Stop chain is jumpered • Redundant checking of the E-Stop chain tripped
F.925	Testing of the third shutdown method failed	<ul style="list-style-type: none"> • Defective hardware
F.928	Faulty input testing	<ul style="list-style-type: none"> • The testing of an cyclic tested input was not successful • The connected device is not working • The cable connection between the connected device and the controller is broken
F.92A	If the motor wiring test is activated by P.112 the wiring will be tested during system tests.	<ul style="list-style-type: none"> • min. one of the motor cables is not good or nor connected • Motor cable damaged • Motor damaged
F.930	External watchdog incorrect	<ul style="list-style-type: none"> • Defective hardware or noise-saturated environment
F.931	ROM error	<ul style="list-style-type: none"> • Wrong EPROM code • Defective hardware or noise-saturated environment
F.932	RAM error	<ul style="list-style-type: none"> • Defective hardware or noise-saturated environment
F.933	Wrong frequency of CPU	<ul style="list-style-type: none"> • The clock frequency of the processor is wrong
F.935	Stack error	<ul style="list-style-type: none"> • User-Stack or System-Stack overflowed • Possible software error due to recursive invocations (e.g. profile)
F.939	3 Phase Power Supply Input	<ul style="list-style-type: none"> • Signal cable is not connected or defective • Power not connected to 3 Phase Power Supply Input (see control board overview)
F.942	RAM Error of I/O Processor	<ul style="list-style-type: none"> • RAM Error of I/O Processor
F.960	Faulty parameter checksum	<ul style="list-style-type: none"> • New EPROM version with different parameters • Controller not yet initialized
F.961	Checksum from calibration values etc.	<ul style="list-style-type: none"> • New EPROM version with different EEPROM structure • Controller not yet initialized
F.962	Converter parameters not plausible	<ul style="list-style-type: none"> • New EPROM version • Controller not yet initialized
F.964	Program version / manufacturer code	<ul style="list-style-type: none"> • New EPROM version • Controller not yet initialized
F.965	Faulty door cycle counter with active emergency opening	<ul style="list-style-type: none"> • The door cycle counter does not count or is faulty. Because of this no emergency opening testing can be done.
F.966	Hardware unknown	<ul style="list-style-type: none"> • A wrong software was programmed to the controller • The programmed software does not know the hardware version • The controller hardware is broken
F.968	Programming error with Real time clock	<ul style="list-style-type: none"> • The clock is not programmed plausible
F.969	Internal error Real time clock	<ul style="list-style-type: none"> • The clock has an error → make a reset
F.970	Plausibility parameter block error	<ul style="list-style-type: none"> • New EPROM version • Controller not yet initialized • Some parameter is implausible • Controller incompatible with Operator

17. INFORMATION CODES

CODE	DESCRIPTION
I.021	Emergency open test is running
I.080	Service counter will run off
I.100	Speed in open position to high
I.150	Speed in close position to high
I.160	Permanent open command still active
I.161	Priority still active
I.170	Forced opening active
I.180	Wait for foil key command
I.185	Wait for reset by stop foil key
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.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.380	Faulty 2nd internal N.C. safety bar
I.383	Faulty 2nd internal N.O. safety bar
I.510	Correction drive finished
I.515	Active correction drive
I.520	Target speed for opening or closing move not reached Pre-limit switch reached before full speed was reached --> adjust ramps Current limiter prevents movement at full speed --> Inverter or motor working at performance limit --> adjust ramps or limiter
I.555	Measuring rotation factor not ready
I.610	Light line alignment completed successfully.
I.620	Door in PU when syncing but some rays of light are still masked. Adjust P.446 door masking in PU!
I.621	The resolution of the installed position encoder is too low to maintain robust light curtain operation. More increments are required per door move. (Message only occurs when DIP-Switch is ON.)
I.700	In timer limit switch operating mode (typ. after power on) the door position is not available. Deadman speed is maintained until the actual position becomes available again.
I.856	The internal safety edge is tripped because of an WiCab radio problem The radio connection interrupts during door drive for a short time. Possible causes are: <ul style="list-style-type: none"> • The distance between mobile and stationary unit is larger than specified • No perfect orientation of stationary and mobile antenna • The radio link is disturbed by external noise

18. WARRANTY

18.1 CYCLE COUNT AND MAXIMUM CURTAIN LIFTS

Grifco warrants the performance for Low Cycle and High Cycle Applications which do not exceed the total maximum operation cycles per 24 month period from purchase, maximum cycles per hour and maximum curtain weights for particular drum diameters, shown in the tables below.

TABLE 1: LOW CYCLE OPERATORS	DRIVE RATIO	MAXIMUM OPERATION CYCLES PER 24 MTHS	MAXIMUM CYCLES PER HR	MAXIMUM LIFTING CAPACITY [KG] DRUM DIAMETER			
				165MM	168MM	219MM	273MM
GDD-42-11-SS		15,000	10	338	333	267	220
GDD-55-11-SS		15,000	10	443	436	349	289
GDD-75-10-SS		15,000	10	603	595	476	394
GDD-100-10-SS		15,000	5	805	793	635	525
GDD-140-9-SS		15,000	5	1,126	1,110	889	735
GDD-22-13-VS		15,000	10	177	174	140	115
GDD-42-11-VS		15,000	10	338	333	267	220
GDD-55-11-VS		15,000	10	443	436	349	289
GDD-75-10-VS		15,000	10	603	595	476	394
GDD-100-10-VS		15,000	5	805	793	635	525
GCD-45-23-SS See Notes	3.0	15,000	10	1,086	1,070	858	709
GCD-22-23-VS See Notes	3.0	15,000	10	531	523	419	346
GCD-45-23-VS See Notes	3.0	15,000	10	1,086	1,070	858	709
GCD-45-23-SS See Notes	3.8	15,000	10	1,376	1,356	1,086	898
GCD-22-23-VS See Notes	3.8	15,000	10	673	663	531	439
GCD-45-23-VS See Notes	3.8	15,000	10	1,376	1,356	1,086	898
GCD-45-23-SS	4.5	15,000	3	1,548	1,525	1222	1010
GCD-45-23-VS	4.5	15,000	3	1,548	1,525	1222	1010
SAFETY BRAKE							
GSB-547		100,000	30	450	442	355	283
GSB-1017		100,000	30	997	979	800	635
GSB-1892		100,000	30	1990	1954	1499	1217

18. WARRANTY

18.1 CYCLE COUNT AND MAXIMUM CURTAIN LIFTS

TABLE 2: HIGH CYCLE OPERATORS	DRIVE RATIO	MAXIMUM OPERATION CYCLES PER 24 MTHS	MAXIMUM CYCLES PER HR	MAXIMUM LIFTING CAPACITY [KG]			
				DRUM DIAMETER			
				165MM	168MM	219MM	273MM
GDD-42-11-SS		50,000	20	265	261	209	173
GDD-55-11-SS		50,000	20	350	344	276	228
GDD-75-10-SS		50,000	20	459	452	362	299
GDD-100-10-SS		50,000	10	563	555	445	367
GDD-140-9-SS		50,000	10	788	777	623	514
GDD-22-13-VS		50,000	20	135	133	106	88
GDD-42-11-VS		50,000	30	265	261	209	173
GDD-55-11-VS		50,000	20	350	344	276	228
GDD-75-10-VS		50,000	20	459	452	362	299
GDD-100-10-VS		50,000	10	563	555	445	367
GCD-45-23-SS See Notes	3.0	50,000	20	796	784	628	519
GCD-22-23-VS See Notes	3.0	50,000	20	404	398	319	263
GCD-45-23-VS See Notes	3.0	50,000	30	796	784	628	519
GCD-45-23-SS See Notes	3.8	50,000	20	1,008	993	796	657
GCD-22-23-VS See Notes	3.8	50,000	20	511	504	404	334
GCD-45-23-VS See Notes	3.8	50,000	30	1,008	993	796	657
SAFETY BRAKE							
GSB-547		100,000	30	450	442	355	283
GSB-1017		100,000	30	997	979	800	635
GSB-1892		100,000	30	1990	1954	1499	1217

- Notes:**
- Lifting weights are calculated for 23mm single-wall profiles and includes a friction co-efficient of 20% (Lifting weight is reduced if door has windlock clips).
 - Ensure the lifting capacity of the Safety brake, paired with the operator, is not exceeded.
 - Lifting Capacity is reduced if the stated number of Cycles per hour is exceeded.
 - Contact Grifco for operational requirements in excess of the maximum performances shown in the tables.

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18. WARRANTY

18.2 CHAMBERLAIN WARRANTY

Limited Warranty in Australia and New Zealand

1. Your consumer rights and guarantees

This Limited Warranty is provided by Chamberlain Australia Pty Ltd. Chamberlain New Zealand Limited (Chamberlain), contact details in Section 5 below. This Limited Warranty applies to a Grifco® Commercial unit (Unit) purchased in Australia and New Zealand, and gives you benefits which are in addition to your consumer rights and remedies under the Australian Consumer Law (or corresponding New Zealand consumer protection laws).

You can find out more information about your consumer rights and guarantees which the law provides in Australia at www.accc.gov.au. in New Zealand at www.consumerprotection.govt.nz. We also provide this statement as required under the Australian Consumer Law:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

2. What does our Limited Warranty cover?

Chamberlain warrants that, when purchased new in Australia or New Zealand, the Unit (all parts of the Unit other than globes and batteries) is free from defects in materials and workmanship (Limited Warranty) for the Limited Warranty period, subject to the terms and conditions of this Limited Warranty.

The Limited Warranty period (for Accessories see below) is 2 years (24 months) from the date of purchase or when a recommended cycle count for the purchased operator has been reached (whichever comes first)

The Limited Warranty period for remote controlled transmitters and accessories included with the Unit (Accessories) is 12 months from the date of purchase.

The Limited Warranty for genuine spare parts is free from defects in material and workmanship for a period of 6 months from date of purchase.

3. Limited Warranty Conditions

The following terms and conditions apply to your Limited Warranty:

- our Limited Warranty is effective from date of purchase as indicated in Section 2 above;
- proof of purchase of the Unit is required;

Please also see the User Manual for the Unit available on our website, or provided at the time of purchase.

4. What is not covered

- Batteries and globes are not covered under the Chamberlain Limited Warranty.
- Travel costs incurred by Chamberlain or its authorised dealer in either travelling to and from areas outside a capital city area. These costs will be at the purchaser's expense.
- Additional access costs incurred by Chamberlain or its authorised dealer in obtaining access to premises where the Unit is not readily accessible. These costs will be at the purchaser's expense.

Our Limited Warranty covers defects as explained, and does not cover all problems and mishaps that may occur in relation to the Unit including:

- you got what you asked for but simply changed your mind, found it cheaper somewhere else, decided you did not like the purchase or had no use for it;
- you misused the Unit in any way that caused the problem;
- you knew of or were made aware of any deficiencies with the Unit before date of purchase;
- use of the Unit with controls or third party devices or software which has not been supplied, or pre-approved, by Chamberlain;
- problems relating to or residing in third party hardware, software or other items with which our product is used;
- any loss of data related to you or provided by you, or loss related to downtime associated with use of the product whether through power outage, failure of internet or wireless connectivity, network disruptions, or otherwise;
- non-compliance with the relevant instructions in the User Manual;
- tampering, neglect abuse, wear and tear, accident, electrical storm, excessive use or conditions other than normal use;

- problems with, or relating to, hardware, including but not limited to the springs, hinges, guides;
- problems caused by electrical faults or replacement of batteries or light bulbs, blown fuses, electrical surges, power surges or power strikes, fire, flood, rain, water, lightning or storms;
- water or moisture ingress that causes corrosion or electrical malfunction; corrosion caused by sea air if located near a waterway, beach etc; lack of proper maintenance, service or care of the Unit;
- and/or damage caused by insects, pests or other after sale damage caused by events or accidents outside Chamberlain's reasonable control and not arising under normal and standard operating conditions.

5. Where you need help with our product

If you have a problem with the Unit or if you are concerned it may be defective, please contact our Customer Service team below:

Australia	Phone toll free 1800 474 326
Fax toll free	1800888121
Address	Unit 1, 75 Epping Road North Ryde, NSW 2113
Email	customerservice@chamberlainanz.com
Website	https://www.grifco.com.au/
New Zealand	Phone toll free 0800 653 667
Auckland	Phone 09 477 2823
Fax toll free	0800653 663
Email	customerservice@chamberlainanz.com
Website	https://www.grifco.co.nz/

As a first step, our Customer Service team will provide product support assistance to help you try to resolve the problem and in some cases, replacement parts for "do it yourself repairs". If our technical team need to see the product to determine the nature of the fault we will arrange an inspection by a trained technician, or ask that you send the product to us.

If your product was installed at your premises by an authorised dealer, please contact the installer indicated in your sales documents for prompt on-site service, or consult our Customer Service team if you need help in finding a local service technician. A service fee for on-site service may apply.

Authorisation from Chamberlain is required for warranty service under this Limited Warranty.

6. Delivery Charges

If an inspection is required in order to determine the nature of the fault please send the Unit freight paid and well packaged in accordance with our instructions. Any costs associated with transporting the Unit will be at Chamberlain's cost if the Unit has breached a statutory consumer guarantee. Repairs and replacement parts provided under this Limited Warranty are free of charge (and repaired items or replacement parts for Units found to be defective will be returned to you at our cost), and warranted by Chamberlain for the remaining portion of the original warranty period. However, if you make a claim under this Limited Warranty and this Limited Warranty does not apply, or if the law does not provide you with a statutory right or remedy as a consumer, you may be required to pay labour, assessment and/or freight costs and delivery charges to repair, replace and/or return the Unit to you.

7. How to register your product

Please register your Unit and contact details at this link <https://www.grifco.com.au/warranty-registration> so that we or your authorised installer can locate your details and provide you with product support assistance as quickly as possible, and keep you up to date with product updates. Registration can also be done by contacting Chamberlain Customer Service.

8. Important Reminder

All other guarantees (other than your statutory rights and guarantees as a consumer under applicable laws) are excluded to the fullest extent that we may lawfully do so. Unless the law requires us to do so, we do not accept any other liability, such as compensation for damages, injury or loss.

Last updated; 21st April 2022