D2 Turbo and D2 Turbo Low-Voltage User Guide

CENTSYS

D2 Turbo™

D2 Turbo™ Low-Voltage

DOMESTIC SLIDING GATE MOTOR

Company Overview

Centurion Systems (Pty) Ltd has been manufacturing automatic gate systems since 1986, and is committed to providing reliable, cost-effective solutions in the field of gate and access automation.

We offer a diverse range of products including gate motors, GSM-based products, garage door motors, remote controls, keypads, traffic barriers, proximity access control and intercom systems.

Our products are developed by an in-house team of talented engineers that are constantly researching new and innovative products to add to our range and upgrade existing models.

We are accredited with the world-class quality assurance system, ISO 9001-2008, to ensure that our products are manufactured to the highest level of quality with a 100% test to specification.

Through a team of dedicated technicians and sales personnel, together with a fully-fledged in-house training facility, we are committed to providing unmatched service and support for our products.

The equipment is installed worldwide and is available through a network of competent distributors and installers.

Further information is available on our website **www.CentSys.com.au**

Contents

Icons used in this user guide

This icon indicates tips and other information that could be useful during the installation.

This icon denotes variations and other aspects that should be considered during installation.

This icon indicates warning, caution or attention! Please take special note of critical aspects that MUST be adhered to in order to prevent injury.

IMPORTANT Safety instructions

Even if you have owned and used an automated gate before, we suggest that you read through the safety instructions below very carefully. Although years of thought have been put into every CentSys product - and your safety is our top priority – accidents do happen. So, please make sure that you fully understand the following safety requirements before using your automated gate.

Before you attempt to use your new gate motor for the first time, you should know:

- How to operate the Manual Release thumbwheel
- How the Obstruction Detection System and all other safety features work
- All the safety considerations that come with operating an automated gate - and the importance of explaining these considerations to everyone who uses the motor

DOs and DON'Ts

1. Do not activate your gate motor unless you can see it. Make sure that no people, pets or any other obstructions are in your gate's area of travel.
2. NO ONE MAY CROSS THE PATH OF A MOVING GATE. Our advanced obstruction detection technology is designed to stop your gate in its tracks should a child or pet be in the way. However this is a reactive system and should never supersede proactive measures of preventing people, pets or vehicles from moving into the path of a moving gate.
3. Check if the obstruction detection system and safety devices for correct operation **are in working order once a month**.
4. **Children should be supervised to ensure that they do not play with the appliance.**
5. **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.**
6. Always be mindful of where your limbs are when dealing with moving parts – you don't want your fingers to be pinched (or worse).
7. Keep your gate controls (remote controls) in a safe place. You don't want anyone getting in uninvited.
8. Look after your gate and it will look after you. Ensure that all working areas are debris-free and that your automated system is well-maintained and your CentSys motor should last you a very long time.
9. Ensure that any technician that works on your motor has been trained by Centurion Systems (Pty) Ltd.
10. This product was designed and built strictly for the use indicated in this documentation. Any other use, not expressly indicated here, could compromise the good condition/operation of the product and/or be a source of danger.
11. Centurion Systems (Pty) Ltd does not accept any liability caused by improper use of the product, or for use other than that for which the automated system was intended.

Before you attempt to use your new gate motor for the first time, you should know:

- **At no point must 220V be supplied to the system! This is a low-voltage model and connecting a voltage supply that exceeds its maximum specifications will irreparably damage the electronics**
- **No earth terminal is provided for the incoming power, and is not necessary, but the earthing lead must still be grounded to the motor base plate as this serves as lightning protection**
- **The diameter of the cable needed to supply power to the system will depend on the distance between the transformer and the motor, as well as on the output voltage of the transformer used. The table below shows the typical cable thicknesses for corresponding distance and assumes a 16V AC transformer output**

Distance from the transformer to the motor	Minimum cable thickness required
Up to 20m	1mm²
20m - 40m	1.5mm²
40m - 60m	2.5mm²

TABLE 1.

Introduction

This User Guide contains all the information you need to configure and operate your new **D2 Turbo** sliding gate motor.

From safety instructions to basic principles of operation and an in-depth description of your CentSys product's many features and functions, by the time you have finished reading this guide you will have learnt how to make the most of your gate motor.

Basic maintenance (page 34) is permitted but, in the unlikely event that your CentSys product malfunctions, rather leave it to the professionals and contact your installer or nearest CentSys agent for prompt assistance.

D2 Turbo Overview

The **D2 Turbo** has various useful features and functions, all easily accessible from a user-friendly dial-based setup system. Multiple Modes of Operation, Speed Profiles, an onboard multichannel receiver – you name it, the **D2 Turbo** has it.

The integral 12V 5Ah battery (charged by an internal charger) comes with full battery backup and advanced lightning protection so you can always get in – even when the power is out. For increased power capacity you can install a larger, 7Ah battery (your **D2 Turbo** was designed to cater for this), or you can even use a solar panel to power it. (See the section on solar panels, for more details about solar charging.)

The **D2 Turbo** is designed to open and close domestic sliding gates weighing up to 250kg. **It must not be installed or used to automate the entrances of townhouse complexes, housing estates, commercial or industrial properties.**

A low-voltage variant, know as the **D2 Turbo Low-Voltage**, is also available for installations where 230V mains power is not available at the gate.

The gearbox, moulded from a high-tech engineering polymer, not only looks good, but is corrosion-free and guarantees that even if you live at the coast, your **D2 Turbo** will just keep on going.
For your security, the internal gearset has a self-locking action, so forced entry is not an option for would-be burglars. An optional Theft-resistant cage and Theft-resistant Nut makes intruders' lives even more difficult. For your safety, our revolutionary limit switch mechanism monitors the speed and location of your gate for accurate position control and sensitive anti-crushing protection.

1. Identification of Parts

Refer to the drawings below, for how to identify your **D2 Turbo/ D2 Turbo Low-Voltage** motor and its parts.

1. Motor fuse
2. Motor enclosure unit
3. Camlock cover
4. Manual Release thumbwheel
5. Foundation plate
6. Function Dial
7. Status LED
8. Pushbutton
9. **D2 Turbo** 230V orange controller

   D2 Turbo Low-Voltage dark-green controller
10. Selection knob
11. 12V 7.2Ah or 5Ah battery
12. Battery strap
13. Pulley guard
14. Spare fuse
15. Gate-mounted origin marker
16. Origin marker bracket
17. Motor housing
18. Pinion
19. Pinion guard

FIGURE 1.

2.1. Disengaging the gearbox/drive

To manually override the motor you will need to: Open the camlock cover, insert the camlock key and rotate it 90° **clockwise** (the motor cover can also be removed at this stage if so desired).

This will allow for the rotation of the Manual Release thumbwheel.

By turning the Manual Release thumbwheel 90° **counter-clockwise** until it clicks, the motor pinion will be put into 'Manual Mode'.

FIGURE 2.

2.2. Re-engaging the gearbox/drive

To re-engage the drive mechanism of the motor, turn the Manual Release thumbwheel 90° **clockwise** until it clicks. Once you have re-engaged the drive mechanism don't forget to lock the camlock by inserting the key and rotating it 90° **counter-clockwise** – this will help prevent unauthorised tampering with the motor.

By locking the camlock, the Manual Release thumbwheel cannot be moved from 'locked' to 'unlocked' and vice versa.

FIGURE 3.

Introduction

The **D2 Turbo** sliding gate motor's advanced functions are controlled by an intelligent electronic controller.

FIGURE 4.

3.1. Gate Operation

3.1.1. Full Gate Opening

The CentSys remote controls supplied with the **D2 Turbo** are used to operate the gate.

However, most automatic gate installations are also fitted with an intercom, which provides for communication between the house or building and the gate. The handset is usually fitted with a gate pushbutton which, when pressed, sends a signal to the **D2 Turbo** controller to operate the gate.

FIGURE 5.

3.1.2. Modes of Operation

To operate the gate to open fully, the **D2 Turbo** has three modes to choose from depending on the application. Only one mode can be selected at any given time.

- **3.1.2.1. Standard Mode**

  Standard Mode is the most commonly used mode for domestic applications as it allows full control of the gate. Press the remote control button for approximately one second to get the gate in motion. If the remote control button is pressed while the gate is

moving, the gate will stop. Press the remote control button again and the gate will go into reverse.

Autoclose (page 8) and PIRAC (Beam Autoclose) (page 10) can be used together with Standard Mode.

- **3.1.2.2. Open Only Mode**

  This mode is ideal for increased safety in multi-user, single dwelling applications.

  If you select Open Only Mode, your gate will open when you press the button of the remote control or the gate pushbutton on the intercom – but pressing the button again while the gate is opening will be ignored. It will not cause the gate to stop or to reverse. Only the internal Autoclose feature described on page 8 of this User Guide, which is automatically enabled, will close the gate if you have selected Open Only Mode.

  If the button of the remote control or intercom gate release is pressed while the gate is closing, the gate will immediately re-open. The gate cannot be stopped in a midway position and will therefore always close. If the button is pressed while the gate is in the open position, the Autoclose timer (page 8) will be reset.

  We highly recommend that a pair of photocells are installed across the gate entrance and connected to the Closing Safety Beam input on the **D2 Turbo** if you select Open Only Mode. This will prevent the gate from closing on people, pets or vehicles. (page 13)

  PIRAC (Beam Autoclose) (page 10) can be used with Open Only Mode.

- **3.1.2.3. Reversing Mode**

  Reversing Mode offers slightly more security than Standard Mode as it allows you to close your gate quickly by pressing, for instance, your remote control just as you drive through the gate to prevent children or pets running out - or anybody getting in behind you.

  When pressing the button of the remote control or the gate pushbutton on the intercom, your gate will be set in motion. If you press the button again, the gate will move in the opposite direction. So, if the gate is opening and you press the button, the gate will stop and immediately start to close (and vice versa).

  Autoclose, explained on page 8 and PIRAC (Beam Autoclose) on page 10, can be used with Reversing Mode.

To configure any of the operating modes please refer to the section, 'Customising the Features and Functions' on page 25.

3.1.3. Automatic Closing (Autoclose Mode)

The **D2 Turbo** has the facility to automatically close the gate after it
has opened (**Autoclose Mode**). The time that the gate stays open is by
default fifteen seconds, but this time-period can be set to be five, ten,
fifteen, thirty, or forty-five seconds.

As described in the previous section, Autoclose Mode is selectable with
Standard Mode (page 6) and Reversing Mode (page 7) - by default the
function is Off. However, Autoclose is automatically enabled in Open
Only Mode.

Centurion Systems (Pty) Ltd highly recommends that if you
select Autoclose Mode in order to prevent the gate from
closing on people, pets or vehicles, a pair of photocells are
installed across the gate entrance and connected to the
Closing Beam input on the **D2 Turbo**.

- **3.1.3.1. Autoclose Override**

  Automatic closing can be
  overridden in Standard and
  Reversing Modes by pressing
  and holding the button of the
  remote control or intercom gate
  release for no less than three
  seconds. The gate response will
  be to start opening and then to
  stop as soon as the Autoclose
  Override feature is activated.
  On releasing the button, the
  gate will continue opening until
  fully open.

  Your gate will stay open until
  you use the remote control or
  intercom gate release to close
  the gate. The **D2 Turbo** will
  then revert to normal Autoclose
  operation.

  The Autoclose
  function cannot be
  overridden in Open
  Only Mode.

  To enable/disable the Autoclose
  function and/or change the
  Autoclose time, please refer to
  the section, 'Customising the
  Features and Functions' on
 page 23.

**Press and hold remote
control pushbutton;
gate will start to open**

**Gate stops to indicate
that Autoclose Override
has been engaged**

**Release remote control pushbutton;
gate will continue to open
fully and stay open**

FIGURE 6.

3.1.4. Pedestrian Opening

The Pedestrian Opening input opens the gate just wide enough for a pedestrian to pass through the opening.

A second button on your remote control can be used to operate the Pedestrian Opening function. You can also connect a keyswitch or keypad mounted adjacent the gate entrance to operate this function.

FIGURE 7.

There is a default two second delay before the gate opens. This is to warn the pedestrian that the gate is about to move.

FIGURE 8.

It will also give the person enough time to move their hand away if they are reaching through the gate to operate a keyswitch or a keypad*. If the Courtesy Light (page 14) is connected to the **D2 Turbo** control card, it will flash indicating that the gate will open approximately one metre. The gate will close after a default time of five seconds.

The gate can be kept open by keeping a trigger on the input (keeping your key in the keyswitch, for example) – once removed the gate will close after the fixed five seconds.

If a Closing Photocell (page 13) is fitted and the beam is broken while the gate is closing, the gate will stop and open to the Pedestrian Opening position. The gate will remain open while the beam is broken and the five second (fixed) Autoclose Delay will only commence once the beam has been cleared.

* For safety reasons it is recommended that all pedestrian keyswitches and keypads are installed on the opposite end of the gate to where the motor is installed.

3.1.5. PIRAC Mode (Beam Autoclose Mode) - optional

This mode can only be used if a Closing Photocell (page 13) is fitted.

This mode can be used in conjunction with any of the Operating Modes - Standard, Open Only and Reversing Modes.

With PIRAC Mode enabled, your gate will close as soon as you have driven through and passed the photocell – giving intruders no time to follow behind you.

Gate opening

Beam
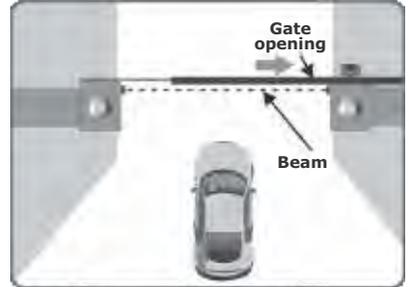
FIGURE 9.

If Autoclose Mode is enabled and the gate has been opened but nothing moves through the Closing Photocell, the gate will stay fully open for the duration of the Autoclose timer before closing. However, if something passes through the closing beam the gate will close immediately.

Gate opening

Beam broken
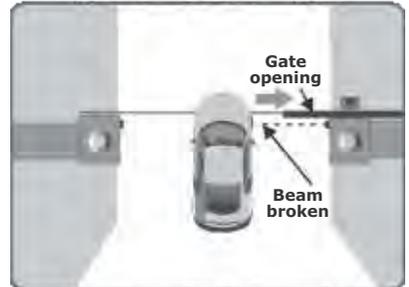
FIGURE 10.

If something crosses the photocells while the gate is opening, the gate will continue to open until the beam is cleared. Once the beam is cleared, the gate will stop and close. If the gate has reached its fully open position, it will stop and remain open until the beam has been cleared.

Gate closing

Beam re-made
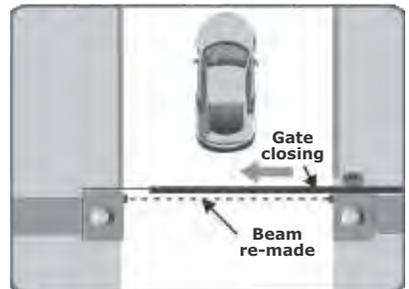
FIGURE 11.

To enable/disable PIRAC Mode, please refer to the section, 'Customising the Features and Functions' on page 27.

FIGURE 12.

3.1.6. Holiday Lockout Mode

This feature completely immobilises the motor and deactivates all inputs so that nobody can get into your property while you are away.

One of the buttons on your remote control can be used to switch the Holiday Lockout function as well as a latching keyswitch or keypad mounted adjacent the gate entrance, accessible from the outside of the property.

When Holiday Lockout is enabled, any of the access control devices that are connected to the **D2 Turbo** will be rendered inactive. Not even tampering with the keyswitch or keypad on the outside of the property will open the gate – this is particularly useful if you intend leaving your property unattended for extended periods of time.

FIGURE 13.

If Holiday Lockout is enabled while the gate is moving or in the open position, it will only activate once the gate is back in the closed position.

If somebody tries to open the gate via a valid remote control, keypad code, etc. and Holiday Lockout is enabled, the onboard buzzer will emit one beep periodically for 30 seconds to confirm that the gate has been disabled using this feature.

To enable/disable the Holiday Lockout Mode Feature, please refer to the section, 'Customising the Features and Functions' on page 16.

3.1.7. Positive Close Mode

Positive Close Mode is intended for applications where the gate must close fully against the gate end post for security reasons – such as ensuring proper contact of a switch on the gate that feeds power to an electric fence.

This feature operates only during the last few millimetres when the gate closes.

> It is recommended that a rubber strip be fixed to the front edge of the gate to reduce the noise when the gate closes against the end post.

To enable/disable the Positive Close Mode feature, please refer to the section, 'Customising the Features and Functions' on page 16.

3.1.8. Speed Profiles

There's no substitute for speed!

The **D2 Turbo** can be set to run in either a High Speed Mode (default) which is approximately 24 metres per minute, or a Low Speed Mode which is approximately 16 metres per minute.

High speeds offer a greater level of convenience and security, while slower speeds ensure increased levels of safety at the gate.

To change the Speed Profile, please refer to the section, 'Customising the Features and Functions' on page 16.

3.1.9. Anti-crushing Sensitivity

The **D2 Turbo** incorporates a sensitive electronic anti-crushing technology that responds in the event that a person or vehicle obstructs your gate.

Using this technology, the typical response for an opening gate is to immediately stop and retract a short distance, while a closing gate will stop and fully re-open.

Collision Sensing can be set to either High Sensitivity or Low Sensitivity. Generally High Sensitivity should be used, but in instances where the gate runs very poorly Low Sensitivity can be selected.

FIGURE 14.

3.1.10. Photocell(s) (optional, but recommended feature)

It is always recommended to connect additional safety mechanisms to the **D2 Turbo** instead of relying only on the inherent anti-crushing protection, referred on the previous page.

The typical device is a pair of infrared photocells which can detect the presence of any vehicle, person or pet that breaks the beam and communicates back to the **D2 Turbo** that something is in the path of the gate.

Another option is an inductive loop detector, which is mounted in the ground, adjacent to the gate, which is very effective at detecting vehicles or the like, but not persons or pets.

- **3.1.10.1. Closing Photocells**

  Closing photocells provide additional protection against your gate closing on people or vehicles. If the beam is broken while the gate is opening, the gate will continue to open. If the gate is open, the gate cannot be closed if the beam is broken, and if the gate is closing when the beam is broken, it will stop and re-open.

FIGURE 15.

  If you select the Autoclose (page 10) feature, the gate will remain open if the beam is broken and it will only close after the set Autoclose time has expired when the beam has cleared.

- **3.1.10.2. Opening Photocells**

  These photocells prevent your gate from opening if an object, person or pet is in the way.

  If the photocell is broken while the gate is closed, the gate will not open. If the gate is opening and the beams are broken, it will stop then close. If the gate is closing while the beams are broken, it will continue to close.

**Gate closed - gate cannot open
Gate opening - gate stops and re-closes
Gate closing - gate continues closing**

FIGURE 16.

3.1.11. Courtesy (Pillar) Light Timer (optional feature)

Courtesy (Pillar) Lights can be connected through the **D2 Turbo** controller if an adequate* power supply is available at the gate.
The lights will switch on every time the gate is given a signal to operate (the trigger could be a remote control button, or the gate pushbutton on an intercom.

The lights will stay on for a fixed period of two minutes, then automatically turn off.

FIGURE 17.

The purpose is to bathe your entrance with light when you open the gates and increase your security as you drive into your property – it also saves electricity as the lights only come on when you use the gate motor.

Using the Pedestrian Opening feature will cause the Courtesy (Pillar) Lights to flash three times before the gate opens.

*The cabling that supplies the supply to the **D2 Turbo** must be suitably sized to carries the additional load of the Courtesy (Pillar) Lights or a separate power source must be utilised.

- **3.1.11.1. Courtesy (Pillar) Lights act as Warning Light**
  These modes replace the standard Courtesy Light feature.

  - **3.1.11.1A. Pre-flashing Modes**

    Depending on your requirements or local regulations, your gate automation system can provide for two different safety Pre-flashing Modes which will activate the gate's Pillar Lights if fitted and connected to the **D2 Turbo** controller.

FIGURE 18.

  - **Pre-flashing Mode A**

    With Pre-flashing Mode A activated, the Pillar Light Relay will only activate during gate movement.

- **Pre-flashing Mode C**

   With Pre-flashing Mode C activated, the Pillar Light Relay will activate for two seconds before gate movement occurs, as well as during gate movement. This means that gate movement will be delayed for a period of two seconds after a trigger signal has been received.

To change the Courtesy (Pillar) Light to one of the Pre-flashing Modes, please refer to the section, 'Customising the Features and Functions' on page 16.

3.1.12. External Gate Status Indication LED

An LED (Light Emitting Diode) mounted on your intercom allows you to view the position of your gate and the condition of the battery and power supply from the safety of your home. The different signals of the LED are described below:

FIGURE 19.

Off	Gate is closed
On	Gate is partially or fully open
Continuous slow flash	Gate is opening
Continuous fast flash	Gate is closing
Three flashes every two seconds	Battery voltage is low
Four flashes every two seconds	Multiple collisions have occurred

If you choose not to fit a Gate Status Indicator, the status LED on the controller can also be used for troubleshooting.

3.1.13. Battery-low Protection

The **D2 Turbo** controller has circuitry that monitors the state of the battery. During a power failure, energy is drawn from the battery but not replaced.

To protect the battery from being damaged, the protection circuitry prevents the motors from being run off the battery when the battery voltage drops below 10.6V.

Indication that the Battery-low Protection has been triggered is provided by the onboard buzzer and status LED on the controller (and intercom if so equipped and connected to the controller). The LED will flash three times every two seconds, as will the buzzer beep three times every two seconds. The gate system will also shut off until such time as the battery has recharged to an acceptable level.

Consult your gate automation specialist or Centurion Systems (Pty) Ltd if you discover that your Battery-low Protection signal continues to re-occur.

4. Customising the Features and Functions

'Simplicity is the ultimate sophistication'. ~ Leonardo Da Vinci

The **D2 Turbo** controller makes ordinarily complex settings as quick and easy as possible. Using the **Function** and **Setting Dials**, the **select/Toggle pushbutton** ⬤ , and the bi-colour (red and green) **status LED** you can set up the many features and functions in a flash.

Function Dial

Status LED →

Select/ Toggle pushbutton

Settings Dial

D2 Turbo controller (orange)

Function Dial

Status LED →

Select/ Toggle pushbutton

Settings Dial

D2 Turbo Low-Voltage controller (dark green)
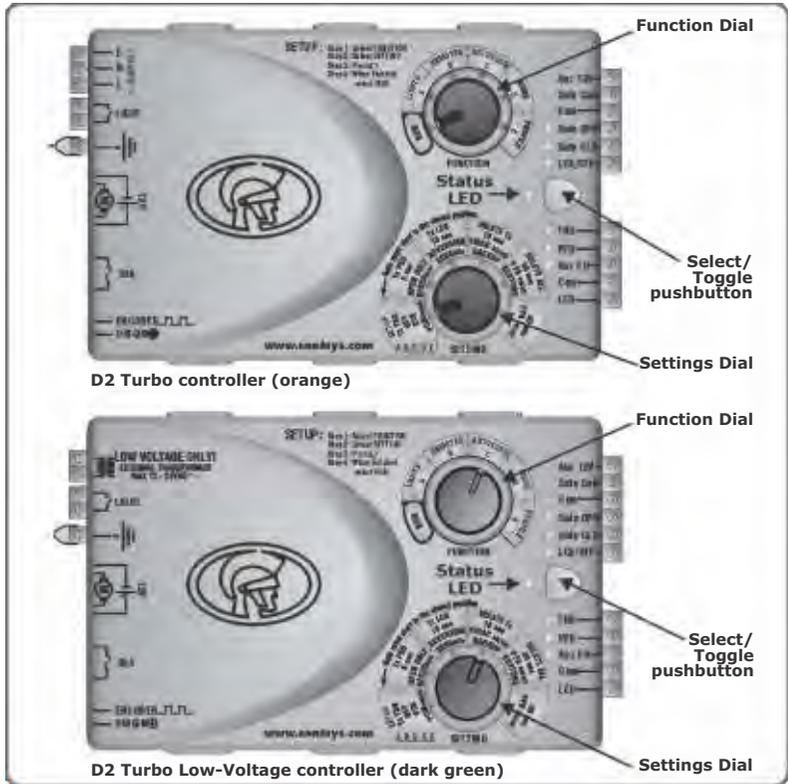
FIGURE 20.

Please always adjust the **Function Dial** first.

Set this to the desired function.

Function Dial
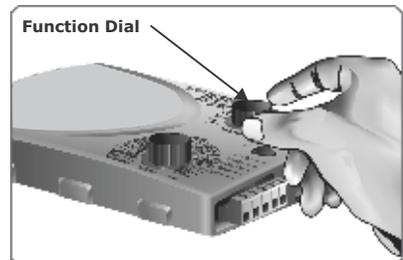
FIGURE 21.

Then move the **Setting Dial** to the preferred setting.
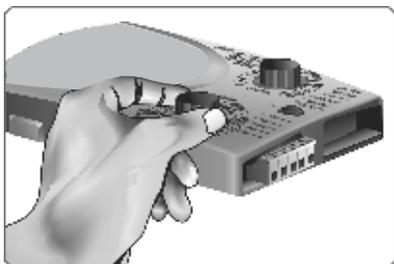
FIGURE 22.

If a setting is for a single fixed value, for example, 15 seconds Autoclose time, then the **Select pushbutton** acts as a **select** for that single choice.

However, if the setting has two options, for example On/Off or Hi/Lo then the **pushbutton** acts as a **toggle** between the two preferences.
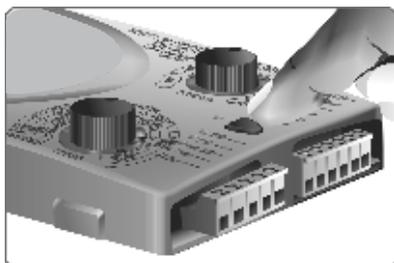
FIGURE 23.

When using the **Select pushbutton** to toggle between preferences the **status LED** will light up as **green** to indicate **On** or **High**; or alternatively **red** to indicate **Off** or **Low**.
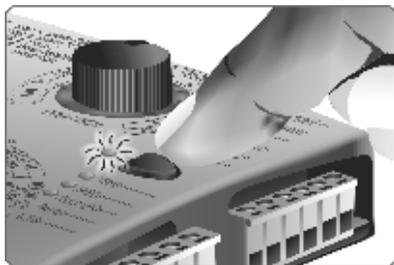
FIGURE 24.

The **Function Dial** must always be returned to the Run position (rotated fully counter-clockwise) after you have finished setting up any of the features, modes or profiles. This ensures that it will be ready for use.
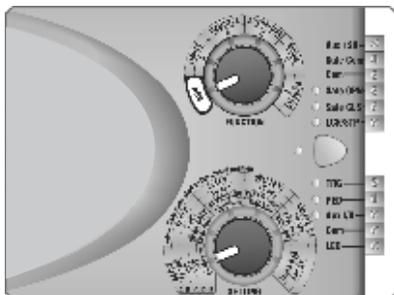
FIGURE 25.

Examples:

A. Setting up the gate Limits

This is usually performed by an installer at the end of the installation. However, should you need to change these settings, you can do this by simply following these steps:

Step 1: Ensure the gate is in the fully closed position and the motor drive is engaged.

Step 2: Rotate the Function Dial to the LIMITS position (A).

Step 3: Rotate the Setting Dial to the SETUP position along the 'A' row of options.

FIGURE 26.

Step 4: Press the pushbutton to select this feature.

FIGURE 27.

The gate will then run through its automated procedure to determine the gate's open and closed positions. If setup is successful, the status LED will be green, which indicates the setup has finished.

FIGURE 28.

Step 5: Return the Function Dial to the RUN position.
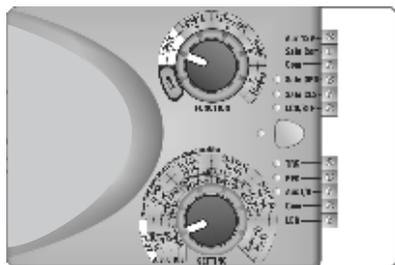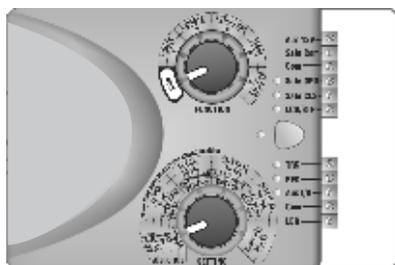
FIGURE 29.

B. Remote control administration

The **D2 Turbo** controller incorporates an onboard multichannel receiver compatible with CentSys secure code-hopping. The receiver will allow any combination of the different inputs - Trigger (Gate fully open), Pedestrian, Holiday Lockout, etc. to be operated from a single multi-button remote control.

FIGURE 30.

You can also artificially increase the number of buttons by using a two-button combination. One of the buttons is used as a shift button to allow the other buttons to be used again in combination with this button. Press and hold the allocated shift button and then press one of the other buttons to create a new button. **The shift button cannot be used as a button on its own - it must always be used in combination with another button**.

Use of the shift button principle allows a three-button transmitter to gain an extra button and operate four functions and a four-button transmitter gains two extra buttons and can operate six functions. This is quite handy if you'd like to control additional devices from a single multi-button remote control, for example your garage doors if they are equipped with CentSys code-hopping receivers.

Shift button

Shift button

Press and hold the 'fourth' button as a shift button together with button 1, 2 or 3 to operate 4, 5 or 6
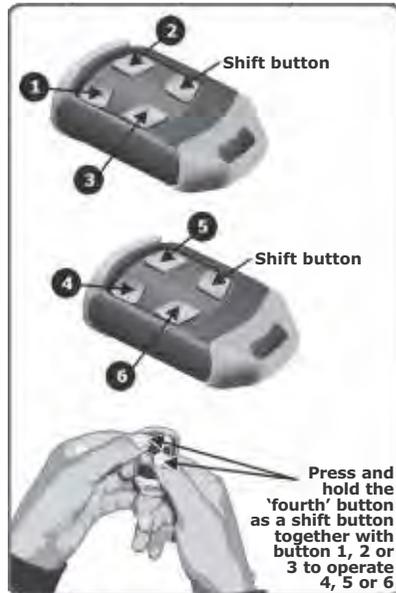
FIGURE 31.

It's important to note that the other devices cannot be activated with the new shift button, only the **D2 Turbo** (and other CentSys operators that are equipped with an onboard receiver) is able to recognise the shift button signals. Using the shift key principle also prevents you from enabling functions like Holiday Lockout Mode by accident. This is because you have to use both hands to press the two-button combination.

At any stage remote controls can be selectively added or deleted within the system. To selectively delete a remote control, the remote control must be available, please refer to the section, 'Deleting specific remote controls' on page 21.

C. Adding CentSys code-hopping remote controls

To add a CentSys code-hopping remote control to the onboard receiver and assign a button to any specific function as described on the previous page, follow the steps below:

Step 1: Rotate the Function Dial to the REMOTES position (B).

Step 2: Rotate the Setting Dial to the desired selection along the 'B' row of options.
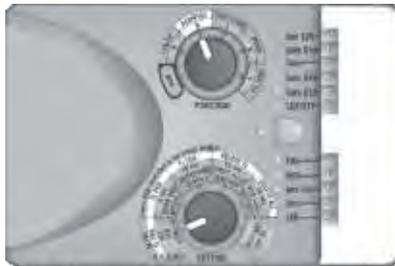
FIGURE 32.

You can choose from the following settings:
- Tx TRG to assign a remote control button to be learned into the system and trigger the gate to fully open
- Tx PED to assign a remote control button to be learned into the system and partially open the gate for a pedestrian
- Tx LCK to assign a remote control button to be learned into the system and activate Holiday Lockout Mode

Step 3: Press the pushbutton to select the setting chosen from above – the status LED will change from red to green to confirm the setting.

FIGURE 33.

Step 4: Press the desired button on the remote control(s) that you want to activate the selected function.

The status LED will flash twice indicating that the onboard receiver has learned in the remote control(s). The onboard buzzer will also pulse twice.

FIGURE 34.

Step 5: Return the Function Dial to the RUN position.

FIGURE 35.

D. Deleting specific remote controls

To delete specific remote controls from the **D2 Turbo** onboard receiver follow the steps below:

Step 1: Rotate the Function Dial to the REMOTES position (B).

Step 2: Rotate the Setting Dial to DELETE Tx along the 'B' row of options. This will delete specific remote controls from the onboard receiver's memory.

FIGURE 36.

Step 3: Press the pushbutton to select - the status LED will change from red to green to confirm the setting.

FIGURE 37.

Step 4: Press any button on the specific remote control(s) that you want to delete from the onboard receiver's memory. The status LED will flash green three times and the buzzer will also beep three times, indicating that the onboard receiver has deleted the remote control(s) from its memory.

FIGURE 38.

Step 5: Return the Function Dial to the RUN position.

FIGURE 39.

E. Deleting ALL remote controls

To delete all the learned-in remote controls from the **D2 Turbo** onboard receiver follow the steps below:

Step 1: Rotate the Function Dial to the REMOTES position (B).

Step 2: Rotate the Setting Dial to the DELETE ALL position along the 'B' row of options. This will delete all remote controls from the onboard receiver's memory.
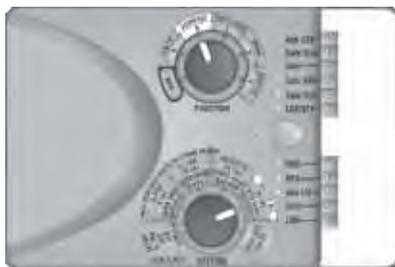
FIGURE 40.

Step 3: Press the pushbutton to select the setting.

The status LED will initially flash red. Hold down the pushbutton button until the status LED turns green and three beeps are heard. This will indicate that the onboard receiver has deleted the remote control(s) from its memory.

FIGURE 41.

Step 4: Return the Function Dial to the RUN position.

FIGURE 42.

F. Setting the Autoclose feature

The Autoclose feature can be selected to be either Off or Activated, with a pre-selected time delay.

F1. Activating the Autoclose feature

To activate the Autoclose feature with a pre-selected time delay, follow the steps below:

Step 1: Rotate the Function Dial to the AUTOCLOSE position (C).

Step 2: Rotate the Setting Dial to the desired time delay setting along the 'C' row of options. You can choose either 5 seconds, 10 seconds, 15 seconds, 30 seconds or 45 seconds.

FIGURE 43.

Step 3: Press the pushbutton to select your choice.

FIGURE 44.

The status LED will change from red to green indicating that the Autoclose feature has been activated with the delay time selected in Step 2.
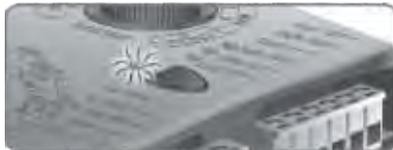
FIGURE 45.

Step 4: Return the Function Dial to the RUN position.

FIGURE 46.

Please note that if the motor is running in Open Only Mode - the Autoclose feature is activated with a 15 second delay as the default - this can be changed if necessary.

F2. De-activating the Autoclose feature

To de-activate the Autoclose feature, follow the steps below:

Step 1: Rotate the Function Dial to the AUTOCLOSE position (C).

Step 2: Rotate the Setting Dial to the OFF selection along the 'C' row of options.

The status LED will be red if Autoclose is on. If it is already Off, the status LED will be green.

FIGURE 47.

Step 3: Press the pushbutton to select.

The status LED will change from red to green indicating that the Autoclose feature has been deactivated or switched Off.

FIGURE 48.

Step 4: Return the Function Dial to the RUN position.
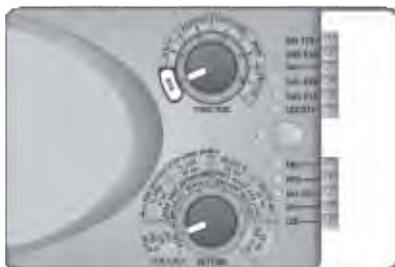
FIGURE 49.

Please note that if the motor is running in Open Only Mode – the Autoclose feature cannot be de-activated.

G. Setting the Mode of Operation

The **D2 Turbo** has three modes to choose from depending on the application. Only one mode can be selected at any given time.

G1. Standard Mode

Step 1: Rotate the Function Dial to the MODE position (D).

Step 2: Rotate the Setting Dial to the STD selection along the 'D' row of options.

FIGURE 50.

Step 3: Press the pushbutton to select the setting.

The status LED will change from red to green indicating that the Standard Operating Mode has been activated.

FIGURE 51.

Step 4: Return the Function Dial to the RUN position.

FIGURE 52.

 PIRAC Mode can be active while in Standard Mode, if desired.

G2. Open Only Mode

Step 1: Rotate the Function Dial to the MODE position (D).

Step 2: Rotate the Setting Dial to the OPEN ONLY selection along the 'D' row of options.

FIGURE 53.

Step 3: Press the pushbutton to select the setting.

The status LED will change from red to green indicating that the Open Only Mode has been activated.

FIGURE 54.

Step 4: Return the Function Dial to the RUN position.

FIGURE 55.

PIRAC Mode can be active while in Standard Mode, if desired.

G3. Reversing Mode

Step 1: Rotate the Function Dial to the MODE position (D).

Step 2: Rotate the Setting Dial to the REVERSING selection along the 'D' row of options.

FIGURE 56.

Step 3: Press the pushbutton to select the setting.

The status LED will change from red to green indicating that the Reversing Mode has been activated.

FIGURE 57.

Step 4: Return the Function Dial to the RUN position.

FIGURE 58.

PIRAC Mode can be active while in Standard Mode, if desired.

H. Setting PIRAC Mode

PIRAC (Beam Autoclose) Mode can be activated when using any of the three Operating Modes (Standard, Open Only, or Reversing).

To select PIRAC Mode as either On or Off, please follow the following steps:

Step 1: Rotate the Function Dial to the MODE position (D).

Step 2: Rotate the Setting Dial to the PIRAC On/Off selection along the 'D' row of options.

FIGURE 59.

Step 3: Press the pushbutton to toggle between On and Off.

The status LED will change from red to green indicating that PIRAC has been activated, or it will change to red indicating that PIRAC Mode has been de-activated.

FIGURE 60.

Step 4: Return the Function Dial to the RUN position.

FIGURE 61.

I. Setting the Pre-flashing Modes

Pre-flashing Mode A and Pre-flashing Mode C can be activated in addition to any of the above Modes of Operation.

To select a Pre-flashing Mode as either on or off please follow these steps:

Step 1: Rotate the Function Dial to the MODE position (D).

Step 2: Rotate the Setting Dial to either PFA On/Off for Pre-flashing Mode A, or PFC On/Off for Pre-flashing Mode C along the 'D' row of options.
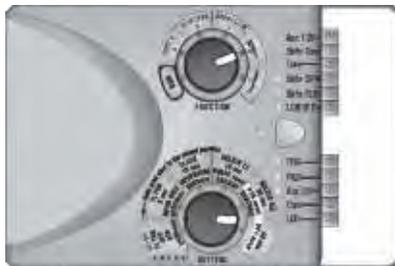
FIGURE 62.

Step 3: Press the pushbutton to toggle the Pre-flashing Mode between On and Off.

The status LED will change from red to green indicating that the selected Pre-flashing Mode has been activated, or it will change to red indicating that it has been de-activated.

FIGURE 63.

Step 4: Return the Function Dial to the RUN position.
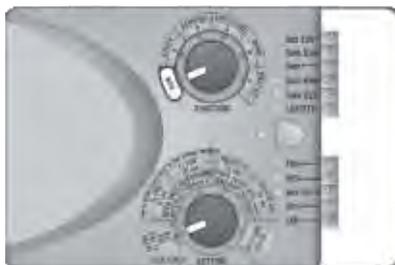
FIGURE 64.

J. Setting the Operating Profiles

Three Operating Profiles- Positive Close Mode, Speed and Collision Sensitivity, can each be configured depending on your individual requirements.

J1. Positive Close Mode

To activate or deactivate Positive Close Mode please follow these steps:

Step 1: Rotate the Function Dial to the PROFILE position (E).

Step 2: Rotate the Setting Dial to PCM on/off along the 'E' row of options.

FIGURE 65.

Step 3: Press the pushbutton to toggle the chosen mode between On and Off.

The status LED will change from red to green indicating that the selected Positive Close Mode has been activated, or it will change to red indicating that it has been deactivated.

FIGURE 66.

Step 4: Return the Function Dial to the RUN position.

FIGURE 67.

J2. Setting the Speed Profile to High or Low

To select the desired speed profile, either High (approximately 24m/min) or Low (approximately 16m/min) please follow these steps:

Step 1: Rotate the Function Dial to the PROFILE position (E).

Step 2: Rotate the Setting Dial to SPEED Hi/Lo along the 'E' row of options.

FIGURE 68.

Step 3: Press the pushbutton to toggle Speed profile between High/Low.

The status LED will change from red to green indicating that the High Speed Profile has been activated, or it will change to red indicating that the Low Speed Profile has been activated.
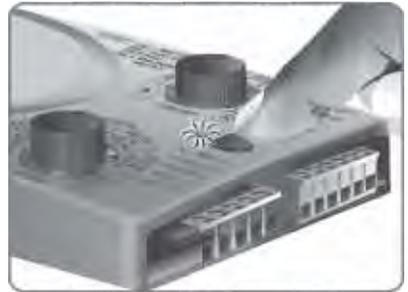
FIGURE 69.

Step 4: Return the Function Dial to the RUN position.

FIGURE 70.

J3. Setting the Anti-crushing Sensitivity Profile

To select the desired sensitivity of the anti-crushing technology to either High or Low please follow the following steps:

Step 1: Rotate the Function Dial to the PROFILE position (E).

Step 2: Rotate the Setting Dial to SENS Hi/Lo along the 'E' row of options.

FIGURE 71.

Step 3: Press the pushbutton to toggle the Sensitivity Profile between Hi/Lo.

The status LED will change from red to green indicating that the High Sensitivity Profile has been activated, or it will change to red indicating that the Low Sensitivity Profile has been activated.

FIGURE 72.

Step 4: Return the Function Dial to the RUN position.

FIGURE 73.

K. Verifying your setup

Should you wish to verify your settings you can rotate the Function Dial to the function that you want to check the settings of. Then rotate the Setting Dial to the various selection options. The status LED will light up as green to indicate that the selected option is either On or High; or alternatively red to indicate Off or Low.

L. Reverting to factory defaults

It is possible to clear and default the system completely, resetting all programmed settings to default values and clearing all learned remotes as well as gate limits.

To perform a complete reset:

- Remove power from the unit by disconnecting both the mains supply and one battery terminal
- Press and hold the pushbutton
- Re-apply power to the unit (it makes no difference whether the battery or mains is reconnected first)
- Release the pushbutton
- The controller is now defaulted

M. Factory defaults schedule

Parameter description	Unit	Minimum	Default	Maximum
Sensitivity	Hi/Lo	Lo	Hi	Hi
Autoclose status	On/Off		Off	
Autoclose timer	ss	5s	Off	45s
Modes of Operation	S, O, R		S	
PIRAC	On/Off		Off	
PCM status	On/Off		Off	
Speed	Hi/Lo	Lo	Hi	Hi
Light profile	CUR, PFA, PFC		CUR	

5. Additional Features

5.1. Battery saver

In the event of a Battery-low shutdown, only the motor will stop drawing current - the controller, photocells and any other peripheral device will continue to flatten the battery; however, at a much slower rate.

An optional Battery-low cut-out switch (product code CP107) totally disconnects the battery and protects it from being fully discharged and potentially damaged.

FIGURE 74.

5.2. Solar power supply

A solar panel can be used to charge the battery instead of the conventional charging circuit. A 20W panel will provide enough power for 20 daily operations (less if 12V DC security lights are fitted) of an average gate*.

You will need to fit a deep-cycle low-maintenance battery (minimum 35Ah) in order to provide sufficient backup capacity during days of poor weather.

FIGURE 75.

* These are typical values for Southern Africa. Contact Centurion Systems (Pty) Ltd or your gate automation specialist for details on what solar panel to select in your area.

The mains fail buzzer can be silenced on the **D2 Turbo Low-Voltage** by inserting a wire link between Aux 12V and power input terminal.
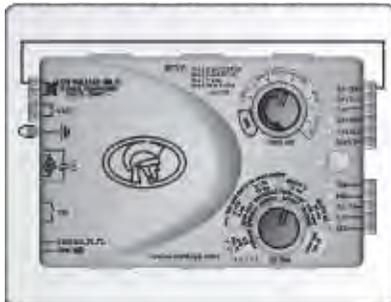

FIGURE 76.

6. Basic Maintenance

CentSys motors are designed to be maintenance-free.
However, there are some basic checks that should be carried out regularly (every six months). These checks will increase the long term reliability of the system and prevent erratic operation of your gate.

Disconnect all sources of electrical power before cleaning or working on the equipment.

General

- Keep the track clear of stones, dirt and obstructions
- Ensure that all rollers run freely
- Put the motor into Manual Mode and check that the gate runs freely on its rail and does not catch or foul against the walls or pillars
- Ensure that the gate wheels and guide-rollers are rotating freely and are not worn. In high-volume applications it will be necessary to replace these components regularly
- Ensure that the rack is properly secured to the gate and that it does not press down onto the operator pinion at any point along its travel
- Keep shrubs and vegetation clear of the motor and rack
- Check that the key still operates the camlock - spray with lubrication if necessary
- Keep the inside of the motor housing clear of insects and dust

Battery

CentSys motors are fitted with high-quality, maintenance-free lead acid batteries which should provide up to three years of normal service life.

- Check for corrosion of the battery terminals
- Clean and apply copper-based grease as necessary

7. Servicing Your D2 Turbo Sliding Gate Motor

Refer all servicing to qualified service personnel. Consult Centurion Systems (Pty) Ltd for assistance.

Your **D2 Turbo** sliding gate motor requires no special care other than that described in the Maintenance section.

If you are having a problem with your **D2 Turbo** sliding gate motor, please contact your installer or Centurion Systems (Pty) Ltd.

8. Diagnostics

Depending on the type of fault or condition of the motor, audible feedback will be given via the onboard buzzer. Listen out for this and refer to the table below:

The different conditions are given in order of precedence.

Battery-low - Buzzer will emit three beeps every two seconds for 30 seconds. Refer to section, 'Battery-low Protection on page 15'

Multiple Collisions - Buzzer will beep periodically until condition is cleared. Refer to section, 'Anti-crushing Sensitivity on page 12'

Holiday Lockout Mode - If Holiday Lockout Mode has been enabled, when triggering to operate the gate, the gate will not operate but the buzzer will emit one beep periodically for 30 seconds

Input voltage failure - If the power supply to the charger has failed the buzzer will emit two beeps every two seconds for 30 seconds

Photocell(s) broken - If something is in the path of the photocells the buzzer will emit one beep periodically for 30 seconds

Photocell(s) failure - if the photocells are not operating the buzzer will emit three beeps each time the gate is triggered

Contact your gate automation specialist or Centurion Systems (Pty) Ltd for further assistance.

Do not attempt to repair the unit yourself. Any work performed by unauthorised personnel may void the warranty.

Technical specifications

Technical data	D2 Turbo		D2 Turbo Low-Voltage	
Input voltage	90V - 240V AC ± 10%, 50Hz☀		10V - 24V AC☀ 10V - 28V DC☀	
Battery charger amperage output (dependant on PSU input voltage)	Voltage output: 13.76V DC			
	90V AC input	1A output	10V AC input	400mA output
			20V AC input	1A output
	240V AC input	1.2A output	10V AC input	200mA output
			28V AC input	1A output
Motor voltage	12V DC			
Motor power supply	Battery-driven (standard capacity - 12V 5Ah)✚			
Battery charger	1A @ 13.7V			
Current consumption (motor at rated load)	8A			
Motor push force - starting	18kgf			
Motor push force - rated	9kgf			
Gate mass – maximum	250kg			
Gate length - maximum	20m			
Gate speed (varies with load)☆	24m/min			
Manual Override	Lockable with key release			
Life expectancy of electric motor	10 years (based on 10 operations per day)			
Collision sensing	Electronic			
Operating temperature range	-15°C to +50°C			
Onboard receiver type	CentSys code-hopping, multichannel			
Receiver code storage capacity	32 transmitter buttons			
Receiver frequency	433MHz			

☀ Can operate off a solar supply, consult Centurion Systems (Pty) Ltd for assistance
✚ Can increase the battery capacity to 7Ah for longer standby times
☆ Gate operating speed can be configured to run slower depending on the requirements of individual installations

TABLE 2.

10. 24 Month Product Warranty

You can register your product(s) online at **www.CentSys.com.au** which will assist you in keeping a record of your date of purchase or installation, serial numbers, etc.

This information may come in handy for future reference to help you in the event of a warranty claim, or to remember your installer's details, or for any other future reference needs that may arise.

All CentSys products are manufactured with extreme care, thoroughly inspected and tested. All CentSys products are warranted against faulty materials and workmanship for a period of 24 months from the invoice date of the product or 26 months from the manufacturing date (as shown on the serial number label of the motor), whichever expires first.

The warranty will cover the repair or replacement, at the discretion of Centurion Systems (Pty) Ltd, of such faulty materials or parts free of charge provided that the equipment is returned to our workshop. The workmanship of the installation of the products carried out by any third party is specifically not covered under this warranty (please consult with your installer about their workmanship warranty terms and conditions). For equipment not of CentSys' manufacture the warranty as supplied by the original manufacturer will apply.

No claims whatsoever will be recognised under the terms of this warranty which pertain to damage, injury, cost or expense, suffered by persons and / or to property, which either directly or indirectly arise out of any one of the following occurrences:

a) Failure to install the product in accordance with the installation instructions provided by Centurion Systems (Pty) Ltd.
b) Failure to abide by the safety instructions provided by Centurion Systems (Pty) Ltd.

This warranty will not apply to any equipment which:

a) Has not been installed in accordance with the installation instructions provided.
b) Has been subject to misuse or which has been used for any purpose other than that designed for by the manufacturers.
c) Has damage caused as a result of handling during transit, atmospheric conditions (including lightning), insect infestation, power surges or other forces outside of the control of Centurion Systems (Pty) Ltd.
d) Has been repaired by any workshop and / or person NOT previously authorised by Centurion Systems (Pty) Ltd.
e) Has been repaired with components not previously tested, passed or authorised by Centurion Systems (Pty) Ltd.

D2 Turbo 24 Month Warranty Sticker

For your own record and reference purposes if claiming against the warranty - stick Barcode product and serial number label for the motor below.

11. Optional Extras

CentSys infrared gate photocells

Always recommended on any gate automation installation

SMARTGUARD/ SMARTGUARDair keypad

Wired or wireless cost-effective and versatile keypad, allowing for access to pedestrians, armed response companies, etc

SOLO/Lattice Proximity Access Control System

Proximity reader, allowing for access to both pedestrians and vehicles

Pedestrian keyswitch

Allows for pedestrians to partially open the gate using a key

POLOphone intercom system

Allow visitors to communicate with residents in order to gain access to the property

FLUX inductive loop detector

Allows free-exit of vehicles from the property - requires ground loop to be fitted

Plug-in step-down transformer

The perfect power solution for your **D2 Turbo Low-Voltage**

GSM-devices

Cellular network-based devices helping you to control and monitor your world from just about anywhere

CentSys infrared gate photocells

SMARTGUARD/ SMARTGUARDair keypad

SOLO/Lattice Proximity Access Control System

Pedestrian keyswitch

POLOphone intercom system

FLUX inductive loop detector

Plug-in step-down transformer

GSM-devices
G-SPEAK / G-SWITCH-22

FIGURE 77.

Optional Extras

Theft-resistant cage
Retro-installable steel cage that increases the resistance of the operator against theft

Theft-resistant Nut with Discus padlock
Retro-installable Theft-resistant Nut and padlock set

Theft-resistant Nut

Discus padlock

Theft-resistant cage

FIGURE 78.

Notes

CENTSYS

**Call Centurion Systems (Pty) Ltd. South Africa
Head Office: +27 11 699 2400**

Call Technical Support: +27 11 699 2481
from 07h00 to 18h00 (GMT+2)

www.CentSys.com.au