



Troubleshooting Guide of the Prostart 100% Electric Gate

This document is designed to assist you in identifying main errors with your 100% Electric starting gate. It serves to:

- Get help by understanding error messages
- Get help by finding the cause of errors
- Describe the procedure for troubleshooting

Summary:

Pages 2 – 3 : Errors concerning the servo-pack internal code

Page 4 : Errors concerning the sound

Pages 5 - 7 : Errors concerning the quality of the gate drop

ERRORS CONCERNING THE SERVO PACK

If your gate doesn't move but the system is well powered, the difficulty meet should certainly come from the servo pack.

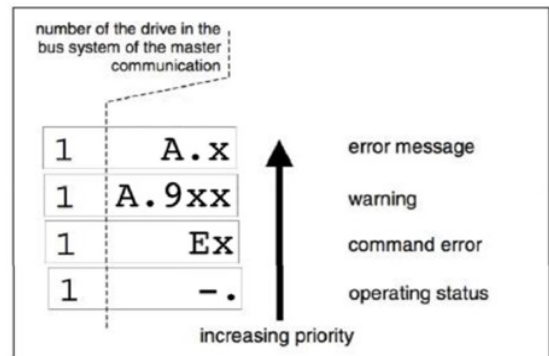
This component is located at the bottom left of your control box and measures about 110mm width (4 inches) and 260mm height (1 foot).

Priorities of the servo-pack display:

The following priorities apply for displaying the current diagnostic message:

It starts at the bottom of the drawing with normal operation, then with a command in progress, then a warning and finally an error preventing the use of the starting gate.

Only **one digit** is present on the Servo-pack. The letters and numbers are displayed one after one with repetition. (*Example: A . 9 2 0 > A . 9 2 0 > etc*)



When the gate is operational, the display shows “-.” (Servo-Pack ready)

If you do not have this code, the following codes below are the main warning and error codes you should meet :

SIMPLE WARNING CODE (GATE RUNNING)

A.910 - Overload

Cause: This warning indicates that the system is being stressed and the motor/servo-pack will stop if the motor torque is stressed longer and/or more. This is still a warning; the gate is still working.

Remedy: Put the starting gate at rest for a few minutes by switching off the control box E-BOX. Tip: Leave the control box open to improve its ventilation. If possible, bring an external fan towards the box for better air circulation.

A.920 - Regenerative Overload

Cause: This warning indicates that the gate is being used too fast. The resistor absorbing the energy produced during the gate drop does not have time to optimally recharge before the next cycle.

Remedy: Take more time between two starts by leaving the starting gate in low position as long as possible. We advise to move up the starting gate once all the riders have passed the first jump. And leave it in a low position if a crash happens. This is just a warning; the gate is still working.

FATAL ERROR CODE (GATE OUT OF USE)

A.C90 - Encoder Communications Error

Cause: The communications between the ServoPack and the motor encoder are not working.

Remedy: Make sure that the green cable is connected on both the motor and ServoPack sides. If this is the case, the connector must be checked in depth by testing the pins to ensure that each wire is being transmitted correctly (Cause: cut wire for example).

Open the SigmaWin+ software and search for the Servopack via the USB cable. If the encoder is found, it means that this fault has disappeared on the Servopack screen. Otherwise continue the search. (Need help by Prostart staff)

A.F10 - Main Circuit Cable Open Phase

Cause: With the power supply connected, the voltage has dropped low for more than one second on phases L1, L2 or L3. This means that at least one of the phases is not wired.

Remedy: Check the wiring on the power side upstream of the control box, and if it is OK, check also the "Power" wiring inside the control box. We advise you to use a voltmeter to find the faulty phase more easily.

A.330 - Main Circuit Power Supply Wiring Error

Cause: With the power supply connected, the voltage received by the ServoPack is not what it should be.

Remedy: Check the voltages between all phases with a voltmeter and correct the problem with a local electrician. If the problem persists, please contact us.

400V gate model: The voltage between phases should be between 350 and 500 Volts.

230V gate model: The voltage between phases must be between 200 and 260 Volts.

F2818 - Phase failure

Cause: Bad wiring or faulty circuit breaker.

Remedy: Check the wiring and condition of the devices upstream of the ServoDrive. We recommend that you use a voltmeter to find the fault more easily. If the problem persists, please contact us.

ERRORS ABOUT THE SOUND

If your gate is working properly but you have no sound or weird sounds, you will find below the main problems:

Potential error 1 - No sound

Cause: Despite the proper functioning of the gate, no sound is emitted from the speaker.

Remedy #1: After turning **off** the system, find the green voice card. (Located on the top right of the box) On this card, an SD memory card is inserted. Simply remove and replace the card and then turn the system back on. If the problem persists, do this operation at least 3 times to verify that the problem does not come from there. (Always with the system off)

Remedy #2: If test #1 did not solve the sound problem, you will need to get headphones. On the voice card, a 3.5mm jack is available on the bottom part (next to the volume control).

If you don't hear anything in the headphones after launching a gate cycle, then the voice card has to be replaced. If you can hear all the sounds in the earphones, the speaker needs to be replaced.

Remedy #3: If you can hear all the sounds in the headphones and you have already changed the speaker and the problem is still there, then the sound card amplifier is out of order. The sound card needs to be replaced.

Potential error 2 - Low sound

Cause: Damaged speaker.

Remedy: Replace the speaker located under the gate.

Potential error 3 - Strange sounds

Cause: The memory card or voice card is damaged.

Remedy: Copy the files from the SD memory card to a new one (SDHC Class 10) and try again. If the problem persists, the voice card should be replaced.

ERROR CONCERNING THE QUALITY OF THE GATE DROP

If your gate is working but the gate drop is not normal, you will find below some advices to identify the source of the problem.

Causes:

- The gate bounces at the end of its movement.
- The gate slams harder at the end of its movement.
- The gate doesn't stay on its top position when all riders are balanced on the gate.

Potential Remedy #1: Checking the attachments

Check the ram fixations. After a few months and/or years, it is possible that the front/rear ram fixation(s) have loosened. Remove the two middle grates to gain access to the ram. Run a few starts looking at the fixations and check that the fixations are good. If there is nothing to report on this point, the problem is elsewhere. If the fixations move, then do what is necessary to repair (Tightening, new fixation(s) in the concrete, ...)

Potential Remedy #2: Check the interior of the electric ram

Please follow the procedure below:

- 1 - Disconnect the ram from the gate and its connectors. Be careful, the ram weighs 70lbs so take the necessary precautions to remove the ram safely.
- 2 - First test 1: Manually move the rod of the ram. If you can enter/exit the rod without too much effort with the hand, that means that the belt is well tightened and that the rod is aligned.

If you can't move the rod or not completely, you will have to:

2A - Follow the "Electric Ram Greasing Note" annex document to grease the inside of the ram. If you still can't move the rod completely, then proceed to 2B.

2B - Completely remove the 10 screws (hex) at the back of the ram (holding the aluminum base).

2C - Check the tension of the belt. A good tension allows you to approach with your fingers the belt of 1cm (1/3") on both sides of the pulleys. If the belt is too tense:

2C1 - Slightly loosen the 4 screws (hex) holding the motor.

2C2- Loosen the small screw above the motor until obtaining a good tension of the belt.

2C3 - Tighten again the 4 screws (hex) holding the motor.

2C4 - Take a picture of the big pulley on the side of the ram rod.

2C5 - Put back in place the aluminium base and do again the first test #1.

After putting the ram back in place and running a few starts, the goal is to check if the problem is still present or not.

If the problem is still present, we will ask you to log into your Prostart customer portal to watch the video called "Prostart Electric Ram- Complete Maintenance Procedure".

Photos to help with disassembly / assembly:



STEP 2B



STEP 2C1



STEP 2C2

Summary around the cause of a bad drop of the gate:

1 - Fixation AV + AR of the ram.

2 - If not solved, control and maintenance of the mechanical feature of the ram.

3 - If not resolved, a Prostart technician is strongly recommended to intervene for a better analysis and repair. A new ram can also repair the problem. Please contact Prostart via its website or by email (quentin.grun@prostart.fr).