



# OWNER'S MANUAL

Version 1 | 01/09/2021  
521256-MAN

## PUMP SAFETY MODULE



**MODELS: 521256 (LOCAL + MONITORING) AND 521252 (LOCAL)**



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## INTRODUCTION

Thank you for purchasing a water pump protection box from CDL. In order to fully benefit from this product, please take the time to read this manual carefully. If you have any questions, contact your CDL representative or CDL customer service at 1-800-361-5158.

- This module is used to protect a transfer pump.
- This module measures the minimum, maximum, and current pressure readings, as well as the time.
  - Minimum pressure: used to detect a loss of water (e.g. from a split in the line)
  - Maximum pressure: allows you to know if the line is blocked or frozen
  - Time: instruction given to the module for reaching the minimum pressure
- The power supply for this module is 110 V.
- CDL Intelligence (CDL Monitoring) is not required to use this product.
- If you are using a CDL Intelligence system, readings will be displayed through the CDL interface or locally and alerts can be sent to you.
- If you do not have CDL Intelligence, alarms will be displayed locally and you will be able to add light and/or sound alerts.
- The module will be automatically added to your CDL Intelligence system (if you have one).
- The module will stop the pump if the pressure is outside the allowed parameters.
- If the minimum pressure (no pressure) or the maximum pressure (PSI MAX) is reached, the system will stop. It will then make up to 4 attempts before triggering on. Variable configuration is possible with Monitoring.
- The display will immediately let you know the nature of the problem.
- It is important to follow the wiring diagram carefully. It is preferable to have an expert install the module to prevent any problems.
- For advanced information on the product settings or functions, contact your representative or CDL customer service at 1-800-361-5158.

## PRODUCT FEATURES

- Power supply: 24 V DC
- Plugs in a 110 V outlet
- Durable plastic case
- Very high accuracy
- Reading by a pressure sensor

## INSTRUCTIONS

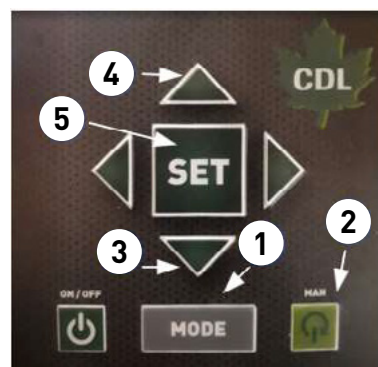
### DISPLAY MEANING

- └ Minimum PSI value (PSI MIN)
- ┌ Maximum PSI value (PSI MAX)
- ⊘ Allowed delay on start-up to reach minimum pressure (PSI MIN DELAY)
- PV Current pressure value (present value)



### KEYPAD LEGEND

1. Press and hold to enter menu
2. Press and hold to run the pump
3. Decrease value
4. Increase value
5. Menu: Save value/next  
Normal operation: Hold to clear alarm



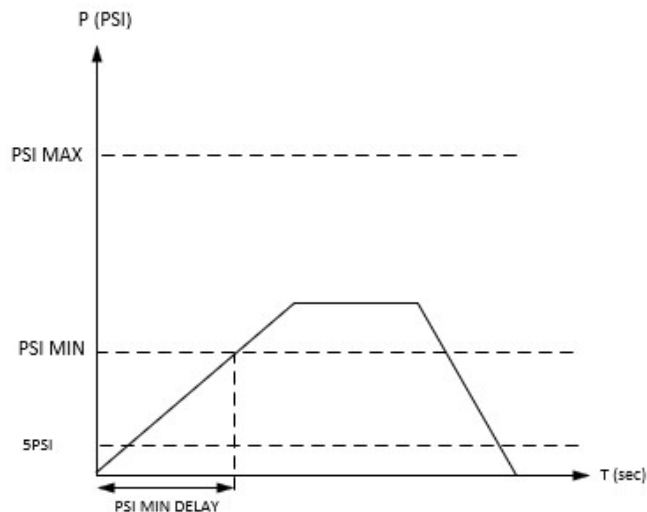
## PARAMETERS MENU

Access the menu by pressing and holding the **MODE** button for 3 seconds.

Use the **up/down** arrows to change the value.

Press the **SET** button to save or change menus.

- **PSI MAX:**  
Upper limit. Obtained by measuring the curve of your pump or the line's pressure rating.
- **PSI MIN:**  
Lower limit. CDL recommends approximately 3 to 5 PSI lower than normal operating condition.
- **PSI MIN DELAY:**  
Allowed delay on start-up to reach minimum pressure. CDL recommends 5 seconds less than the time it takes for water to reach the other end of the line.



## BEHAVIOUR/STEPS

1. Start pump: Once the tank is full (dry contact) or using a Monitoring command.
2. Startup: During this step, the device is monitoring 3 conditions:
  - **NO PRESSURE:** If the pressure does not rise above 5 PSI after 15 seconds, the pump will stop. Since this might be caused by air in the line on startup and the pump might just need more time to prime, another start attempt\* will be made 15 seconds later.
  - **PSI MAX:** If the pressure rises above **PSI MAX**, the pump will be stopped. Since this might be caused by ice, another start attempt\* will be made 15 seconds later.
  - **PSI MIN DELAY:** Wait until this time is elapsed before moving on to the next step.

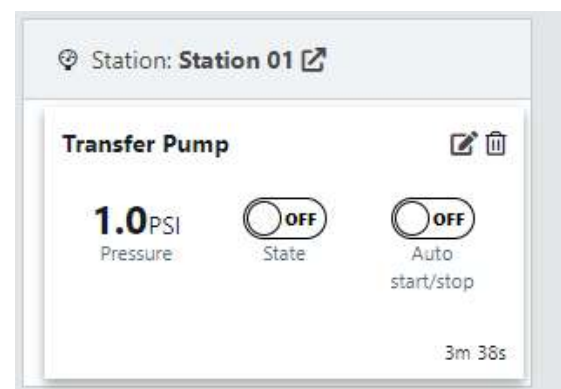
\* Up to 4 attempts will be made, after which the device will trigger an alarm. Alarms must be cleared manually.
3. Normal operation: During this step, the device is monitoring 2 conditions:
  - **PSI MIN:** If the pressure drops below this value for 10 seconds, the pump will stop. This is called a **NORMAL STOP**.
  - **PSI MAX:** If the pressure rises above this value, the pump will be stopped and the alarm will persist.
4. Alarms: Alarms must be cleared manually (by pressing and holding the **SET** button) or remotely on the monitoring system.

## MONITORING INTERFACE

The device will automatically appear in the interface.

The current pressure, pump state, and auto start/stop are displayed. If an alarm is active, it will appear on the interface; clicking on it will clear the alarm.

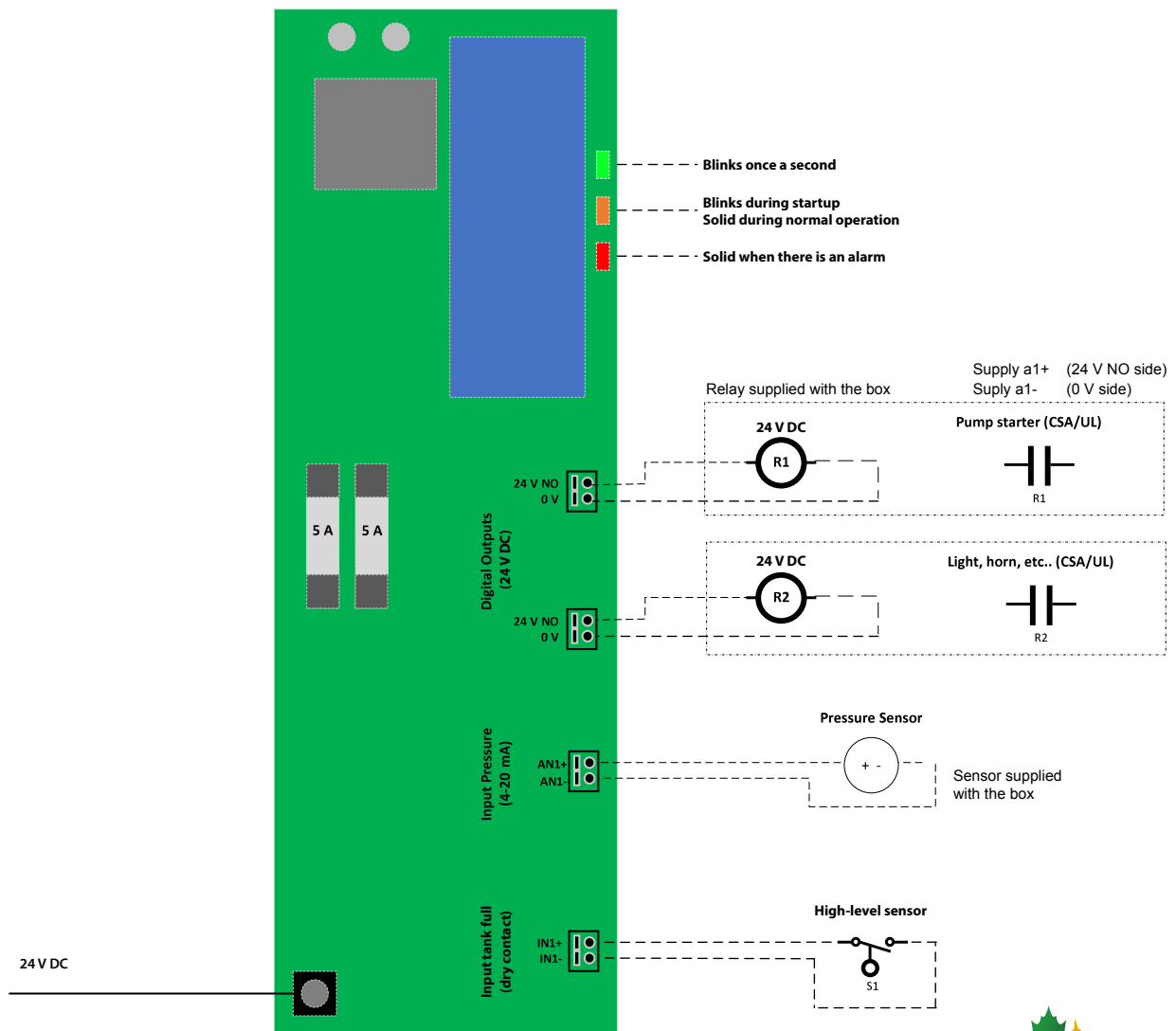
You can configure the auto start/stop using a tank sensor.



## ERROR MESSAGES

- Safety Error:** No pressure on start-up. Usually indicates a broken line, a lack of water, or a clogged pump.
- PSI Min Error:** The pressure has not reached the minimum (PSI MIN) in the allowed time (PSI MIN DELAY). Usually indicates a leak.
- PSI Max Error:** The pressure has risen above (PSI MAX). Usually indicates a closed valve or completely frozen pipe.
- Current Loop Error:** There is a problem with the pressure sensor's 4-20 mA signal.

## WIRING DIAGRAM





## MAINTENANCE

It is important to always keep the pressure sensor clean. At the end of the season, thoroughly clean and rinse the sensor and store it in a clean, dry, well-ventilated. Turn off the power if you are not going to be using the unit for a long time. The data will be saved.

At each annual restart, using your CDL Intelligence interface (if available), make sure that communication with the Monitoring system is good. Make sure the communication times are good. If you require remote assistance, contact CDL Customer Service at 1-800-361-5158.

## WARRANTY

Your pump safety module is covered by a one-year limited warranty. For one year from the date of original purchase, CDL Sugaring Equipment Inc. will repair or replace parts of this product that are defective in material or workmanship provided that the pump safety module is installed, operated, and maintained according to the instructions provided in the owner's manual.

### Exclusions

This warranty does not cover:

1. Products whose original serial number has been removed or modified or is not easily readable.
2. Equipment that has changed owners or is located outside of North America.
3. Breakage caused by poor drainage if the system has been stored below freezing.
4. Failure to follow CDL's maintenance procedure.
5. Production losses caused by problems with the pump safety module.
6. Service calls that do not involve malfunctions, manufacturing or material defects, or products that were not used according to the instructions provided.
7. Service calls to check installation or receive instruction on using the pump safety module.
8. Service calls after one year.
9. Damage caused by: repairs made by unauthorized technicians; use of parts other than original CDL parts or parts that were not obtained from an authorized technician; or external causes like abuse, misuse, accidents, fires, or natural disasters.

10. Damage caused by misuse, negligence, modifications made by the customer, or electrical problems.
11. Damage caused by the use of products not intended for use with the pump safety module or misuse of cleaning products.

## **Disclaimer of Warranties; Limitation of Remedies**

The customer's sole remedy under this limited warranty is the repair or replacement of the product as described above. Claims based on warranties, including warranties of merchantability or fitness for a particular purpose, are limited to two years or the shortest period permitted by law, which shall not be less than two years. CDL Sugaring Equipment Inc. shall not be held responsible for incidental or indirect damages or for material and implicit damages. Some states and provinces do not allow limitations or exemptions on incidental or indirect damages or limitations on warranties. In this case, these restrictions or exemptions may not be applicable. This written warranty gives you specific legal rights. Depending on the state or province, you may have other rights.

## **If you need to call the repair service**

Keep your receipt, delivery note, or other valid proof of payment to establish the warranty period in case you need to call for repairs. If a repair is made, it is in your best interest to obtain and keep all receipts. The service to which you are entitled under this warranty must be obtained by contacting CDL at the addresses or telephone numbers below.

Your pump safety module will be serviced by CDL in Canada. Any features and specifications described or illustrated are subject to change without notice.

CDL Sugaring Equipment Inc.  
257, route 279  
Saint-Lazare-de-Bellechasse, QC G0R 3J0  
Canada

418-883-5158 | 1-800-361-5158  
[cdlinc.ca](http://cdlinc.ca)

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3 Lemnah Drive  
St. Albans, VT 05478  
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802-527-0000 | 1-800-762-5587  
[cdlusa.com](http://cdlusa.com)