# Thermoline

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## Repair Instructions

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To replace a Bottle Sensor in the Pharmacy/Lab Fridge



To suit: TPR/TLR-360/520/750/950/1150/1500

| Approvals | | |
|---|---|---|
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**Safety Reminder**

Replacing the Bottle Sensor requires the technician to hold a suitable electrical licence.

These instructions do not purport to address all potential safety issues, if any, associated with the product's use. It is the responsibility of the user of these instructions to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.
Before attempting any of the following, perform the actions listed below:
• Turn OFF power to the machine.
• Unplug the machine.

**Summary**

These instructions are for replacing a Bottle Sensor on TPR and TLR cabinets 360/520/750/950/1100/1150/1500.

| Tools Required | |
|---|---|
| Screw driver | Phillips Head |
| Screw driver | Large Flat head |
| Allen Key | 5 mm |
| Spanner | 7/8th Open ended |
| Wire Snips | |
| Safety Step | |

| Kit Contents | | |
|---|---|---|
| Item | Description | Quantity |
| 41727 | White Stainless Steel Sensor | 1 |
| | Red Bootlace Ferrule | 1 |
| | Pin Crimp Connector | 1 |

## Section 1: Preparation

Turn off the power and remove the plug from the outlet. To access the controller you will need to remove the top panel. In some cases you will need a safety step or step ladder to be able to remove this panel safely.



Slide the panel up which will free it from the locating blocks on the cabinet.



Pull the panel forward free of the blocks. This will allow you to access the controller

## Section 2: Remove the sensor



Once the panel is removed you will see a metal plate covering the controller.



To remove this plate to be able to access the controller, undo the screws on either side of the plate. You DO NOT need to unscrew the green earth wire on the back of the plate.

After removing the screws, lift the plate to reveal the controller. You can place the plate either behind the controller on the evaporator coil, or to the side.

You will find two white fixing clips on either side of the controller. To unlatch the tabs of these clips, slightly push the white tabs of these clips inwards toward the controller. Then, you will be able to slide the clips off the back of the controller.

After removing the white clips, push the controller through the front panel to access the wires.





In order for you to have complete access to the sensor wires, you will need to remove them from under the fascia and move them to the side. This will provide you with sufficient slack to adjust the wires as required.

Remove the shelves and Shelvex clips. This will allow you to access to the bottle sensor and remove it.





To remove the bottle sensor, first, unscrew the black cap from the bottle, and then slide the sensor through the black bottle cap. Once the sensor is out, use a Phillips head screwdriver to undo the two screws of the plastic bottle holder. This will enable you to slide the sensor through the back of the cabinet for replacement.

Remove the four screws (2 on either side) so you can remove the top cover of the fridge and gain access to the evaporator enclosure. This only applies to 360 cabinets. The other sizes do not have this cover.
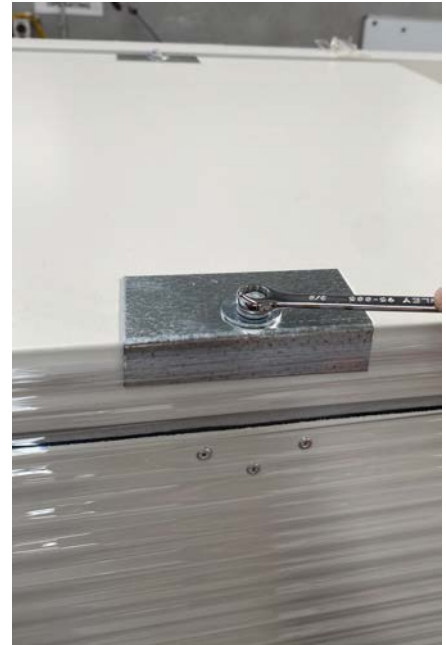






Using a 5mm Allen Key, remove the screws that secure the cover of the evaporator enclosure.

**Note:** Some fridges have the evaporator cover held on by a bolt. Undo this using a 7/8th Spanner.

Using a large flat head screw driver, slide the end of the screw driver in between the foam tape and the top of evaporator enclosure and lever it upwards. This will break the seal and then allow you to remove the lid to the evaporator enclosure.



With the cover off, you will see the evaporator coil, the evaporator fan and the silver tube which contains the Dixell Hot Key sensor. The bottle sensor is under the evaporator fan.
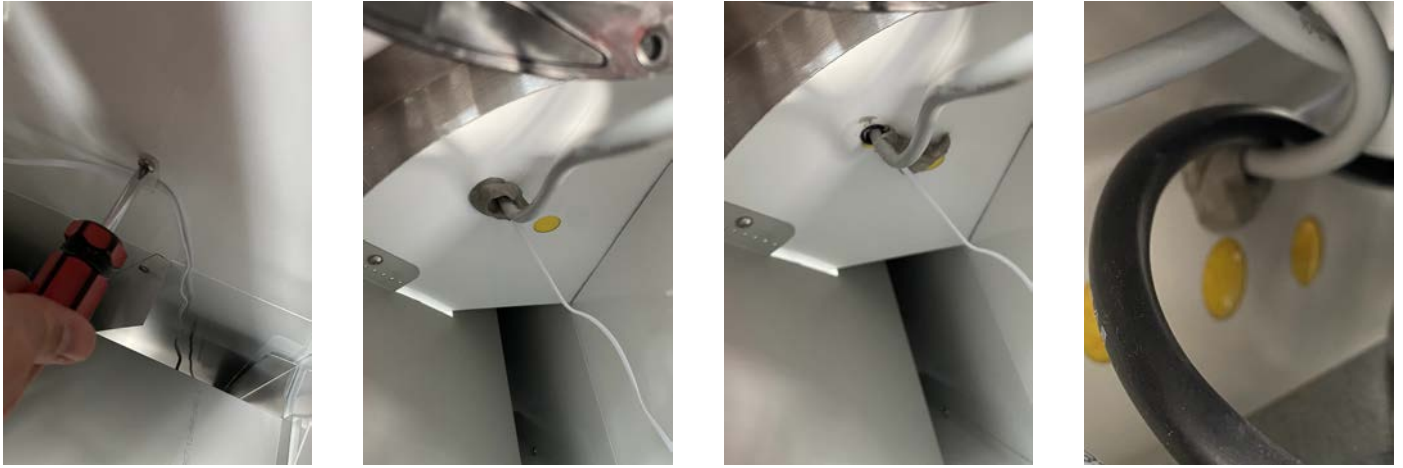
Undo the Dixell hot key sensor housing using a small Philips head screw driver and place it to the side.







Once the screws of the evaporator fan are removed (there are four in total), you can pull out the evaporator fan. Through the cut out where the evaporator is housed you will see the white wire of of the bottle sensor.

To remove the wire from the sensor against the back wall of the fridge, undo the fixing screw. Additionally, take off the putty around the conduit that the sensor wire passes through from the evaporator enclosure to the front of the fridge. However, make sure to keep the putty as you will need it later to seal the area around the new sensor.
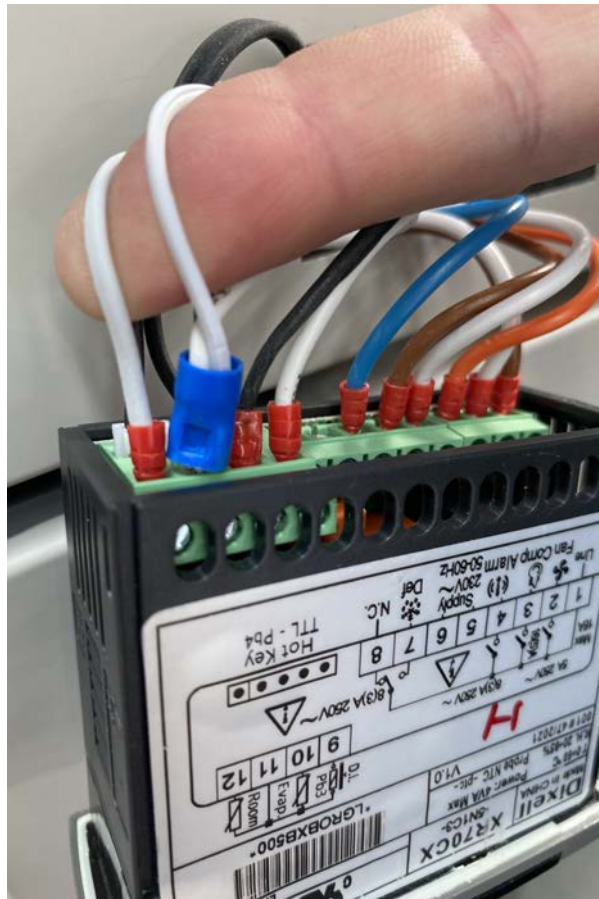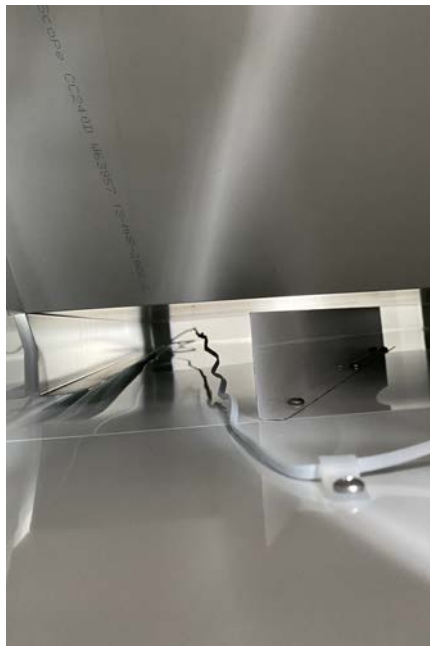


The bottle sensor, door switch and the return air sensor (Black NTC Dixell sensor) are connected in the same common terminal 11 via pin crimp connector. To remove this you have to cut the connector. Once you cut this wire, thread it through the conduits leading into the evaporator enclosure and then this will allow you to remove the bottle sensor completely. You will also have to remove the other wire from terminal 12.
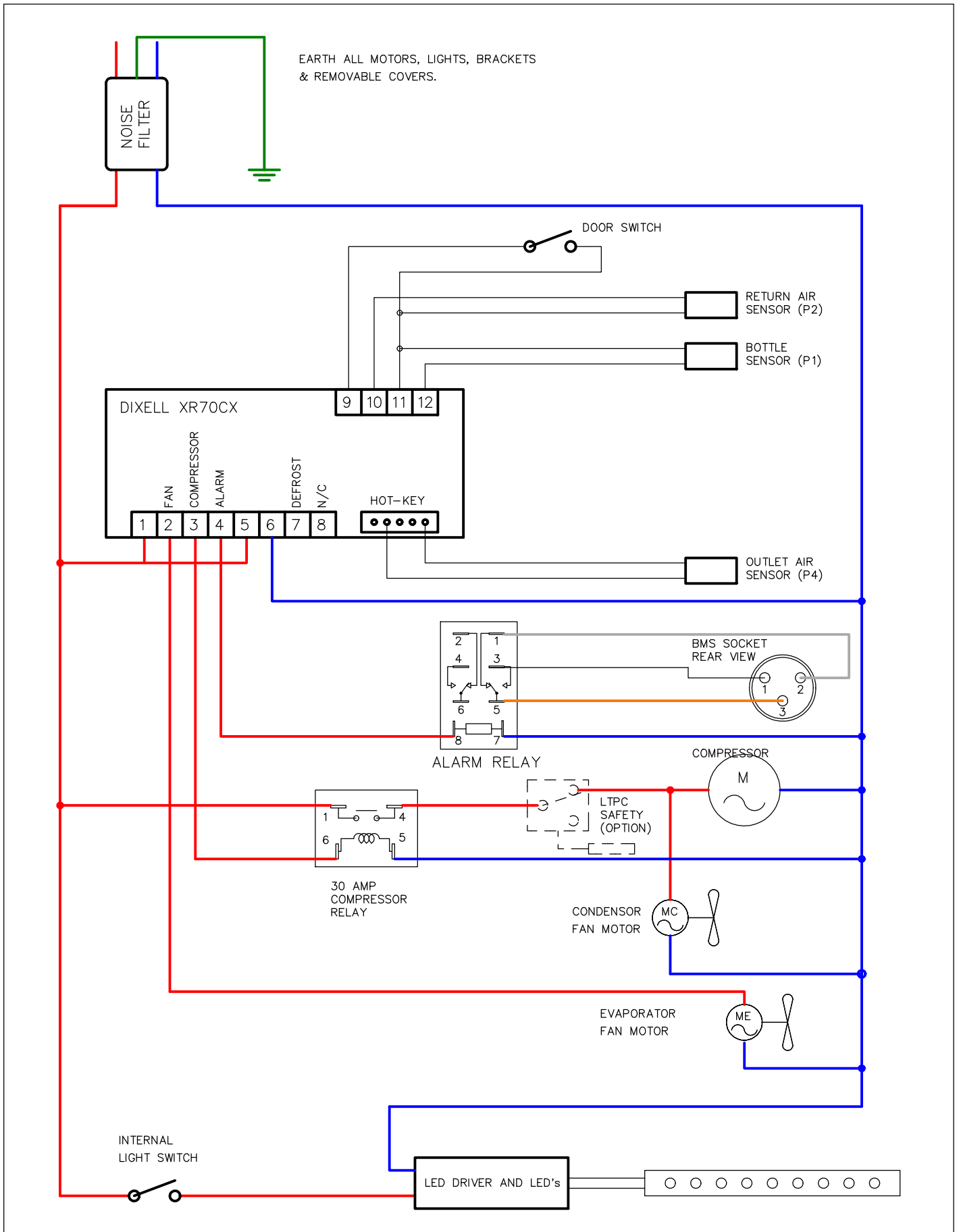
## Section 3: Installation





Insert the new sensor into the conduits of the evaporator enclosure, then seal the surrounding holes with the original putty.





Drop the sensor down the back of the fridge and reattach it to the back wall with the fixing screw.

Please reattach the wires from the door switch, bottle sensor and the return air sensor (Black NTC Dixell sensor) to the common terminal 11. To do this, join the three wires together using a pin crimp connector and reattach them to the back of the Dixell Controller. The other wire from the bottle sensor will require a bootlace ferrule and be attached to terminal 12. For reference, you can find a wiring schematic further on in this guide. After connecting the wires, slide the reattached controller back through the front panel.
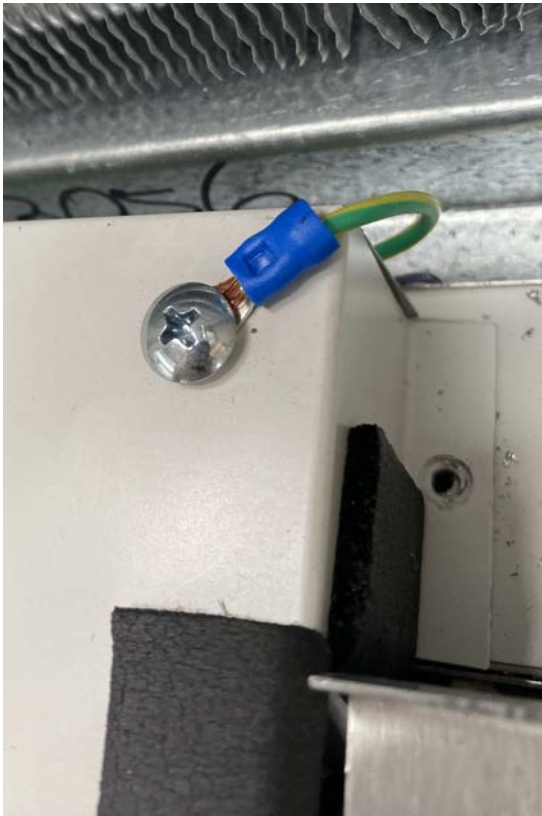
EARTH ALL MOTORS, LIGHTS, BRACKETS
& REMOVABLE COVERS.

NOISE FILTER

DOOR SWITCH

RETURN AIR SENSOR (P2)

BOTTLE SENSOR (P1)

DIXELL XR70CX

9 10 11 12

FAN
COMPRESSOR
ALARM
DEFROST
N/C
HOT-KEY

1 2 3 4 5 6 7 8

OUTLET AIR SENSOR (P4)

BMS SOCKET REAR VIEW

2 1
4 3
6 5
8 7

ALARM RELAY

COMPRESSOR

M

LTPC SAFETY (OPTION)

1 4
6 5

30 AMP COMPRESSOR RELAY

MC

CONDENSOR FAN MOTOR

ME

EVAPORATOR FAN MOTOR

INTERNAL LIGHT SWITCH

LED DRIVER AND LED's

| PRODUCT: | PHARMACY REFRIGERATORS | |
|---|---|---|
| MODELS: | TPR 520/750/950/1150 SERIES | 22-05-18: Changed BMS wire colour |
| | | 04-07-17: Changed to Dixell Controller. |
| DESCRIPTION: | WIRING DIAGRAM FOR WILLIAMS PHARMACY REFRIGERATORS. | 19-01-16: Changed to AD2-5 Controller |
| | | 20-5-14: Removed capacitor off transformer. |
| ISSUE DATE:22-05-18 | DWG.No: TPR 520 to 1150 | 15-11-10: NEW MODEL NUMBERS. |
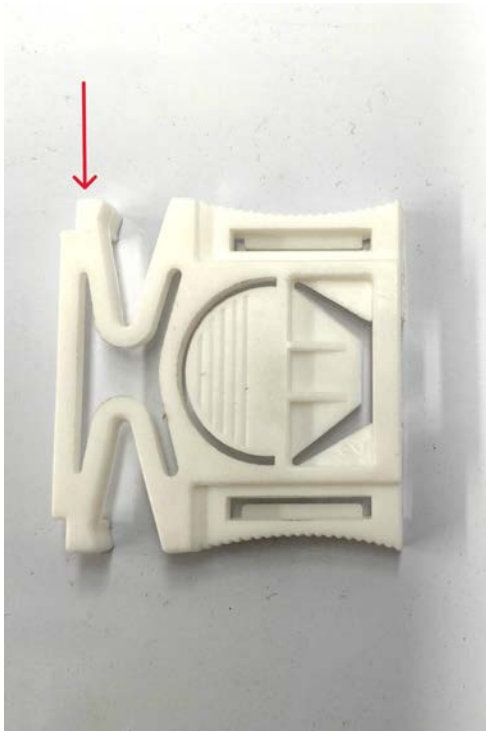
Once the controller is in the front panel, it can be fixed into place. Slide the white clips through the grooves on the side of the controller.

Note: When sliding the clips onto the controller, make sure the side designated with the red arrow in the picture above is slid on first. This the part of the clip that locks the controller in place.

Once the controller in place you can replace the cover. Place the cover over the controller and line up the holes. Once they are lined up, screw the cover down.

Once the controller is in place, you can then place the wires under the fascia neatly.







Install the the evaporator enclosure lid. Make sure that the strip of foam going across the top is placed on top of the evaporator coil. This is to ensure that hot air is cooled through the evaporator rather then go above it. Once the lid is in place you can screw it down.

Screw the cover of the top of the fridge back on (for TPR/TLR-360 cabinets only).





Screw the bottle housing over the sensor wire. Place the sensor through the black bottle cap and then place it into the bottle and screw the lid into place. Attach the bottle back into the bottlle housing.

Reinstall the Shelvex clips to suit your requirements and resinstall the shelves.



You can reinstall the front panel. Place the panel slightly above it's final position matching the rectangular holes with the locating blocks.

Push the panel forward onto the blocks then slide it down to lock into place.

The panel should now be in place and even on all edges.



## Section 4: Power ON

Plug the cabinet back in and turn on the power. Before using the fridge please make sure that the fridge is tested and does not need further calibration.

## Section 5: Support and Contact

Repair and Support is available over the telephone Monday through Thursday from 8:30am to 4pm and Friday 8:30am to 2pm. Please contact service@thermoline.com.au for email technical support.
You can also visit our website at www.thermoline.com.au for access to additional useful troubleshooting guides, operating manuals, and technical information.

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