



ATC CONTROLLER MANUAL FOR END USERS

**For all medium and low temperature systems
including electric standby and heat options**

**Controller module P.N. : M910138
Manual P.N. : M960326**

**Manual Revision D, Nov 11,2014
Software version 1.6**

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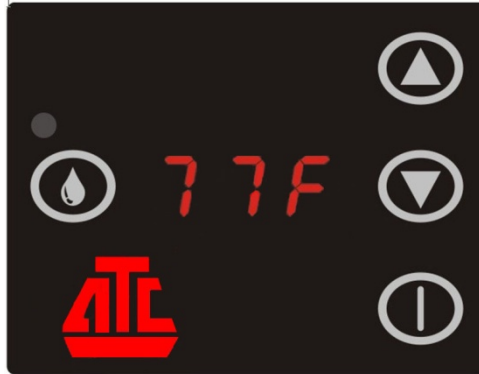
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1) INTRODUCTION

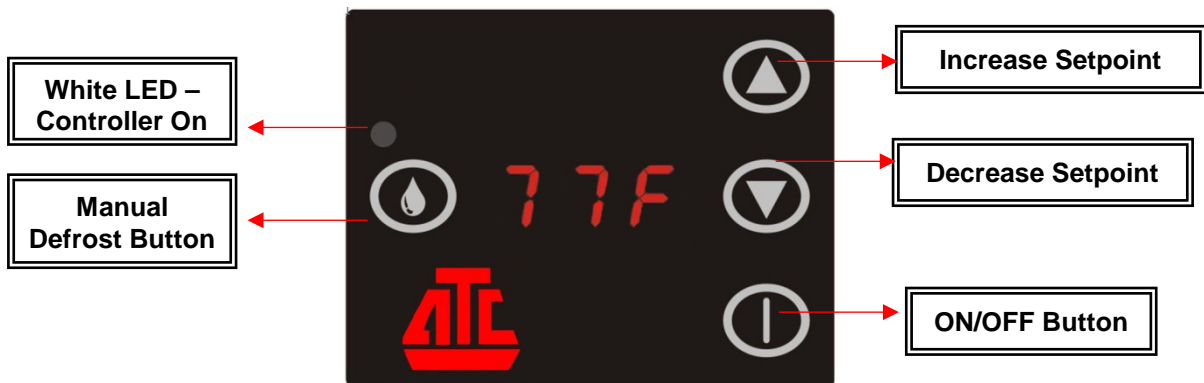
The **M910138** electronic controller is a microprocessor controlled thermostatic device, designed to control cooling , heating and defrost for the refrigeration. It actuates in a temperature range from -40°F to +139°F.

A single setpoint is used for heat and cooling, the system will automatically switch modes to maintain the setpoint entered.





2) SYSTEM OPERATION

2.1) Control Panel



The **M910138** control panel is installed on the vehicle's instrument panel, the exact location determined by the installing dealer.

2.2) Power

When the system is first supplied power it will show the software version. Press the power button  once quickly to turn on the device. The display will show the air return temperature inside the cargo area. To turn OFF the device, press and hold  for three seconds.



On start-up of the vehicle, the controller can be configured to maintain its last on/off state (default), or it can be configured to be in off position at every start up. Talk to your dealer.

2.3) Numerical Display



The numerical display normally shows the air return temperature inside the cargo area. If the up or down arrows are pressed, the current setpoint is displayed for a few seconds, then returns to the return air temperature.

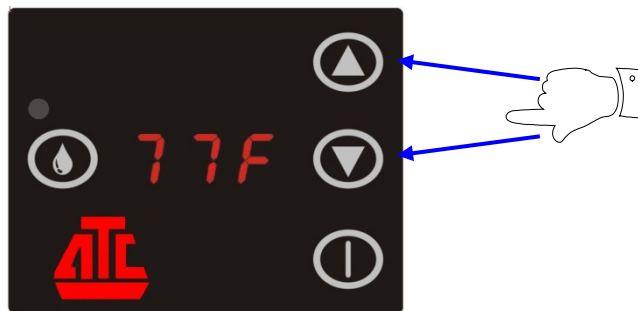
The display can be configured for °F or °C operation, this change can be made at any dealer.

2.4) Evaporator Coil Temperature

To see temperature of the exit gas at the evaporator press , and the decimal dots of the display will blink, which indicates that the display is showing gas exit temperature. If pressing  results in the message **FAI** this indicates that the temperature is out of the reading range (above 59°F).

2.5) Setpoint

Setpoint is the temperature desired inside the cargo area. To regulate it, press  OR . The setpoint temperature will start blinking in the display ; press the key again until the desired temperature is reached.



2.6) Heating


The system will automatically initiate heating mode according to the setpoint value. No additional action is required from the operator to switch between heat and cooling mode. When the heating mode is active, the LED will be red.



2.7) Defrost

Defrost will activate automatically based on internal settings. These defrost settings will be factory pre-set, but can be changed by a dealer. When defrost mode is activated, the control panel will show the message “**dEF**” in the display.






A defrost cycle can also be started manually by pressing  for three seconds. The system will not allow a manual or automatic defrost cycle unless the evaporator is near or below the freezing point.

At the end of each defrost cycle there is a 5 second delay to allow water to drip off the coil. The message “**Go**” will blink while dripping mode is active. Cooling mode immediately follows.

2.8) Electric Standby Option

For units with the electric standby option, the standby mode is automatically initiated when the power cord is plugged into wall power. When the electric standby plug is removed from the wall, the system immediately reverts back to ‘over the road’ operation.

3) HOURMETER

The panel has an hourmeter which count number of hours that control panel is ON (system running). It can be viewed by pressing and holding  and  simultaneously for 1 second. “Hon” will be displayed. Then press the power button .

Example: 129,798 hours – will be shown in two screens.

1st screen – 129

2nd screen – 798

The controller will then revert back to Hon, and then to the return air temperature

4) PROTECTION – ELECTRICAL INFORMATION

- The control panel has protected outputs against short-circuit
- The maximum output current per pin is 400mA.
- This controller will operate in a temperature range from -40°F to +184°F
- The controller will operate with voltage from 10 to 29VDC , on a continuous basis.
- For periods of 5 min. or less the voltage can be up to 32VDC without damage