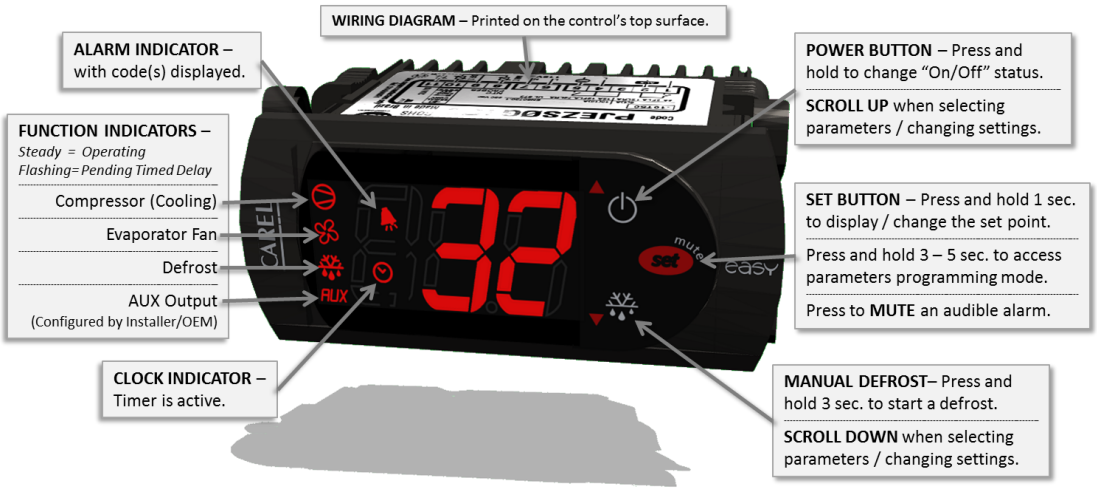
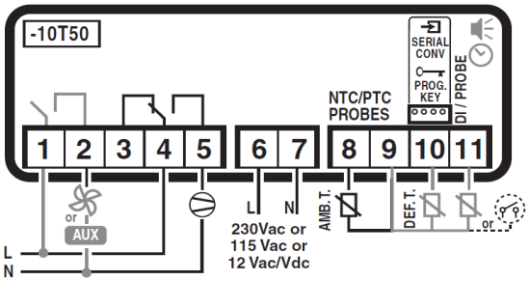
# CAREL easy SERIES REFRIGERATION CONTROL – FIELD SUPPORT GUIDE

1. Overview of the Easy control's display and buttons:

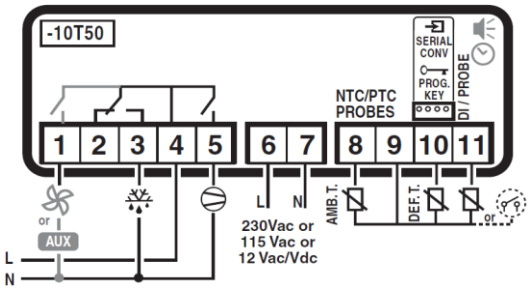



2. **Wiring the control's connections correctly:** Carel controls come in a wide variety of different configurations, often customized for the OEM appliance manufacturer. A label found on top of the control will show a wiring guide and electrical specifications for the specific model. When replacing the control, *DO NOT ASSUME* that the numbered terminals will always serve the same function as the previous control installed. Carefully check all connections according to the labels / symbols shown underneath each numbered contact.

Common Configurations: PJEZS* Models – Medium Temp




PJEZC* Models – Low Temp




Carefully note the following connections available on your model, and connect the wires accordingly.

| | | |
|---|---|---|
| Temperature probe input(s) | | Control probe (AMB) and optional defrost probe (DEF), with a common |
| Digital input | | Configurable input for alarm, defrost, curtain etc. (Parameter A4) |
| Compressor output | | Contact points may vary across different control models |
| Fan output | | Contact points may vary across different control models |
| Defrost output | | Contact points may vary across different control models |
| Auxiliary output | AUX | Contact points may vary across different control models |
| Line voltage to outputs | L | Typically isolated from supply voltage, requiring its own connection |
| Supply voltage | L/N | Line and neutral supply wires, most commonly points 6 and 7 |

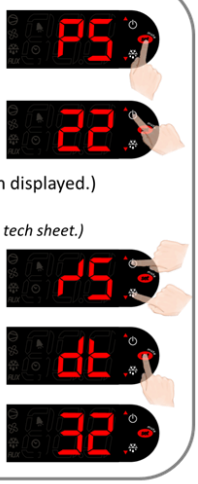
3. **Viewing and changing the set point:** Press and hold the red SET button for 1 second to view current set point, and release immediately after it is displayed. (Display may flash, indicating the value can be changed.)
Press UP and DOWN arrows to change value and press SET again to store new value.

## 4. Programming the control / customizing the functions:

### ACCESSING THE easy CONTROL PARAMETERS

1. Press and hold **SET** for 3 - 5 seconds until **PS** is displayed.
2. Release and press **SET** again briefly to display **0**.
3. Press the **UP** arrow until you reach a value of **22**. Then press **SET**.
   *(You are providing a password to access the protected parameters.*)*
4. Once you have successfully accessed the parameter list, ( **PS** is again displayed.)
   - Press **UP** or **DOWN** to toggle through the various parameters,
     *(**UP** arrow scrolls through available parameters in the order listed on the tech sheet.)*
   - Press **SET** to display the selected parameter's stored value,
   - **UP/DOWN** to change the parameter value if needed.
   - Press **SET** to accept the current value displayed.
5. This important last step must be performed correctly, or all of your parameter changes may be lost!

   Press and hold **SET** for up to 5 seconds to save any changes made. Display will return to temperature reading.




* In some cases, OEM manufacturers change the password from Carel's default of 22 to something else. Should 22 be rejected, and the display returns to a temperature reading after entry, please contact the OEM appliance manufacturer for additional support.

Any parameter codes not found may have been removed by the OEM during customization. Skip them for now, and should any operational problems remain, consult the OEM appliance manufacturer for advice.

**NOTE:** When changing temperature mode between CELSIUS and FAHRENHEIT (parameter /5), be sure to check / reset the highlighted common parameters in addition to the set point. Stored temperature values do not convert automatically after changing the '/5' setting.

### COMMON PARAMETERS / DEFINITIONS

| | |
|---|---|
| r4 | Select probe displayed by default [ 1=Amb; 2=Def; 3=Dig.IN ] |
| r5 | °C or °F temperatures displayed [ 0=°C; 1=°F ] (see note below) |
| rc1 | Control probe offset / calibration (+ or - temp value) |
| rc2 | Defrost probe offset / calibration (+ or - temp value) |
| rd | Control differential (St + rd = Comp Cut-IN) |
| r1 | MINIMUM allowable set point adjustment |
| r2 | MAXIMUM allowable set point adjustment |

### DEFROST PARAMETERS

| | |
|---|---|
| d0 | Defrost type [ 0=elec. by TEMP; 1=hot gas by TEMP; 2=elec. by TIME; 3=hot gas by TIME; 4=by TEMP w/ max TIME ] |
| d1 | Hours between automatic defrost starts (defrost interval) |
| dt | Defrost termination temperature (ignored if d0=2 or 3) |
| dP | Defrost duration in minutes. (MAX timeout if d0=4) |

### ALARM PARAMETERS

| | |
|---|---|
| A0 | Alarm and fan differential [ 0=AL & AH are absolute values ] |
| AL | LOW temperature alarm value |
| AH | HIGH teperature alarm value |
| A4 | Configuration of digital input [ 0=disabled; 1=external alarm; 2=enable defrost; 4=curtain/night mode; 5=remote ON/OFF; 6=AUX out; 9=direct/reverse mode ] |

### FAN PARAMETERS

| | |
|---|---|
| F0 | Fan management [ 1=Control by TEMP (F1); 0=On except (F2, F3) ] |
| F1 | Temperature set point for Fan cut-OFF |
| F2 | Fan cycles ON/OFF with compressor? [1=Yes; 0=No, always on ] |
| F3 | Fans [0=ON] or [1=OFF] during defrost |

### OTHER SETTINGS

| | |
|---|---|
| H1 | AUX output config. [ 0=disabled; 1=alarm N.C.; 2=alarm N.O.; 3=dig. Input ] |
| H4 | Alarm buzzer [0=enabled] or [1=disabled] |

## 6. Troubleshooting common alarms: (Alarm indicator will light, and the code will alternate with the temperature on the display until the condition is corrected and /or alarm is reset.)

| | | | |
|---|---|---|---|
| E0 | Probe 1 Error – replace control probe | E1 | Probe 2 Error – replace defrost probe |
| H1 | Hi Temp Alarm – no refrigeration | LO | Low Temp Alarm – cooling below set point |
| Ed | Defrost Timeout – check defrost probe | CHt | Dirty Condenser – from probe 3 (A4=10) |

7. **"Display alternates 'OFF' / Temp":** Controller is in OFF status. Press and hold power button for 3s to toggle ON / OFF.

8. **If icons are blinking:** the controller is calling for this activation, but a delay is keeping this activation off for a period of a set time (i.e. minimum compressor off time of "x" minutes as a compressor protector).

9. **Controller is cooling below the set point**: first check if the compressor icon is blinking (Continuous Cycle mode). If blinking, hold both UP and DOWN arrow together for 3 seconds to deactivate continuous cycle. If compressor icon is not lit but compressor still runs, troubleshoot the appliance's compressor, wiring, external contactor, or the control's output for an electrical short.

10. **Not Starting / Skipping Defrost:** check if defrost has been disabled by parameter r3 (operating mode) [0 = direct+defrost; 1 = direct (cooling only, no defrost); 2 = reverse (heating)] Also, check the defrost parameters decsibed above.
    Is d0 set to terminate defrost by TEMPERATURE? If so, check that the defrost probe is accurate and paramter dt is correct.
    Is d0 set to terminate defrost by TIME? If so, confirm paramters d1 and dP are correct. (A value of 0 in either will disable defrost.)