

CERTIFICATE OF ACCEPTANCE

MECH-12A

NA7.5.11 Fault Detection and Diagnostics (FDD) for Packaged Direct-Expansion Units

(Page 1 of 3)

Project Name/Address:

System Name or Identification/Tag:

System Location or Area Served:

Enforcement Agency:

Permit Number:

Note: Submit one Certificate of Acceptance for each system that must demonstrate compliance.

Enforcement Agency Use: Checked by/Date

FIELD TECHNICIAN'S DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, the information provided on this form is true and correct.
- I am the person who performed the acceptance requirements verification reported on this Certificate of Acceptance (Field Technician).
- I certify that the construction/installation identified on this form complies with the acceptance requirements indicated in the plans and specifications approved by the enforcement agency, and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7.
- I have confirmed that the Installation Certificate(s) for the construction/installation identified on this form has been completed and is posted or made available with the building permit(s) issued for the building.

Company Name:

Field Technician's Name:

Field Technician's Signature:

Date Signed:

Position With Company (Title):

RESPONSIBLE PERSON'S DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, that I am the Field Technician, or the Field Technician is acting on my behalf as my employee or my agent and I have reviewed the information provided on this form.
- I am a licensed contractor, architect, or engineer, who is eligible under Division 3 of the Business and Professions Code, in the applicable classification, to take responsibility for the scope of work specified on this document and attest to the declarations in this statement (responsible person).
- I certify that the information provided on this form substantiates that the construction/installation identified on this form complies with the acceptance requirements indicated in the plans and specifications approved by the enforcement agency, and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7.
- I have confirmed that the Installation Certificate(s) for the construction/installation identified on this form has been completed and is posted or made available with the building permit(s) issued for the building.
- I will ensure that a completed, signed copy of this Certificate of Acceptance shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a signed copy of this Certificate of Acceptance is required to be included with the documentation the builder provides to the building owner at occupancy.

Company Name:

Phone:

Responsible Person's Name:

Responsible Person's Signature:

License:

Date Signed:

Position With Company (Title):

Project Name/Address:

System Name or Identification/Tag:

System Location or Area Served:

Intent:

The purpose of this test is to verify proper fault detection and reporting for automated fault detection and diagnostics systems for packaged units.

Construction Inspection

1 Instrumentation to perform test includes, but not limited to:

a List of instrumentation may be needed or included.

2 Installation

Verify that FDD hardware is installed on equipment by the manufacturer and that equipment make and model include factory-installed FDD hardware that matches the information indicated on copies of the manufacturer's cut sheets and on the plans and specifications.

A Eligibility Criteria	Results
a. A fault detection and diagnostics (FDD) system for direct-expansion packaged units shall contain the following features to be eligible for credit in the performance calculation method:	
b. The unit shall include a factory-installed economizer and shall limit the economizer deadband to no more than 2°F	Y / N
c. The unit shall include direct-drive actuators on outside air and return air dampers	Y / N
d. The unit shall include an integrated economizer with either differential dry-bulb or differential enthalpy control	Y / N
e. The unit shall include a low temperature lockout on the compressor to prevent coil freeze-up or comfort problems	Y / N
f. Outside air and return air dampers shall have maximum leakage rates conforming to ASHRAE 90.1- 2004	Y / N
g. The unit shall have an adjustable expansion control device such as a thermostatic expansion valve (TXV)	Y / N
h. To improve the ability to troubleshoot charge and compressor operation, a high-pressure refrigerant port will be located on the liquid line. A low-pressure refrigerant port will be located on the suction line	Y / N
i. The following sensors should be permanently installed to monitor system operation and the controller should have the capability of displaying the value of each parameter:	Y / N
<input type="checkbox"/> Refrigerant suction pressure <input type="checkbox"/> Supply air relative humidity <input type="checkbox"/> Return air temp. <input type="checkbox"/> Supply air relative humidity. <input type="checkbox"/> Refrigerant suction temp. <input type="checkbox"/> Outside air relative humidity <input type="checkbox"/> Supply air temp. <input type="checkbox"/> Liquid line pressure <input type="checkbox"/> Return air relative humidity <input type="checkbox"/> Outside air temp.	
j. The controller will provide system status by indicating the following conditions:	Y / N
<input type="checkbox"/> Compressor enabled <input type="checkbox"/> Economizer enabled <input type="checkbox"/> Free cooling available <input type="checkbox"/> Heating enabled <input type="checkbox"/> Mixed air low limit cycle active	
k. The unit controller shall have the capability to manually initiate each operating mode so that the operation of compressors, economizers, fans, and heating system can be independently tested and verified.	Y / N

Project Name/Address:

System Name or Identification/Tag:

System Location or Area Served:

B Functional Testing

Results

Step 1: Low Airflow Test

a. Test low airflow condition by replacing the existing filter with a dirty filter or appropriate obstruction

b. Verify that the fault detection and diagnostics system reports the fault

Y / N

c. Verify that the system is able to verify the correct refrigerant charge

Y / N

d. Verify that you are able to calibrate the following:

Y / N

- Outside Air Temp. Sensor Return Air Temp. Sensors Supply Air. Temp Sensors

C Testing Results

PASS / FAIL

Test passes if all answers are yes under **Eligibility Criteria** and **Functional Testing**.

PASS: All **Construction Inspection** responses are complete and all **Testing Results** responses are "Pass"

FAIL: Any **Construction Inspection** responses are incomplete *OR* there is one or more "Fail" responses in **Testing Results** section. Provide explanation below. Use and attach additional pages if necessary.