

# **DAIKIN AC**<sup>®</sup>

absolute comfort



**Daikin AC University  
Training Course Guide**

# COMMITTED TO YOUR SUCCESS

**Welcome to Daikin AC University! Our mission is to offer our customers the best training in the industry, exhibited by a variety of quality training programs designed to provide the tools and resources needed for our customers to be successful.**

We embrace and stand by this commitment through the development of our state-of-the-art training centers, highly trained and experienced instructional staff and professionally developed curricula.

## **Curriculum**

Our courses are designed by training professionals around specific objectives based on industry needs and job task analysis. We offer a choice of instructional settings based on the program goals and our students' needs including: online/on-demand web-based training, instructor led webinars, onsite training, and instructor led classroom training at one of our Daikin Authorized training facilities.

Daikin AC University offers both onsite training at distributors and dealer facilities and at our Daikin Authorized training facilities in Carrollton, TX, Irvine, CA and Long Island City, NY. Our training facilities have a complete range of fully functional residential and commercial products, including Daikin Altherma and VRV for invaluable hands-on, practical experience.



# ONLINE TRAINING



## Web Based Training:

Our highly-acclaimed Web-Based Training (WBT) is available for you to login when you are ready. The course(s) selected can be retrieved with a few small strokes on your keyboard 24-hours a day, seven days a week.

## Online Instructor-Led Training (OLIL):

We offer quarterly 1 to 2 hour training sessions via webinars. Each session is hosted by an experienced Daikin AC staff member. You can visit our website [www.daikinac.com](http://www.daikinac.com) or go directly to [www.daikinuniversity.com](http://www.daikinuniversity.com) to register for one or all of the classes.

## Online On-Demand (OLOD):

We will offer a selection of Daikin AC developed OLOD courses. Look for this laptop symbol and email [training@daikinac.com](mailto:training@daikinac.com) for more information.

## Prerecorded Webinars:

We are pleased to start offering recorded versions of some of our instructor-led webinars. Look for the play symbol and email [training@daikinac.com](mailto:training@daikinac.com) for more information.

# WBT



# ONLINE TRAINING

## Daikin Introduction



### Course Objectives

- Daikin introduction and history
- Daikin as the global leader recognized for energy efficiency, innovation, and high quality products and services
- Daikin and the environment

### Target Audience

Recommended for anyone

### Duration

0.5 Hours

### Class Prerequisites

None. This is an introductory level course.

### Class Size

N/A

### Materials Provided

N/A

### Price

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

## The Daikin Difference (Technology)



### Course Objectives

- How Daikin's product innovation, inverter technology and compressors make Daikin the product of choice
- Understand how to best position Daikin's product line with regard to energy efficiency, individualized comfort, and quality
- Review 12 of Daikin's technological advantages

### Target Audience

Recommended for anyone

### Duration

1 Hour

### Class Prerequisites

None. This is an introductory level course.

### Class Size

N/A

### Materials Provided

N/A

### Price

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

# ONLINE TRAINING

## Daikin Resources



### Course Objectives

- Review of the Dealer Handbook or Distributor Handbook
- Understanding Daikin's Technical Resource Library (TRL) and how to use it
- Review of Dr. Daikin
- Review our Spare Parts Bank product and services offered
- Review Daikin AC University resources

### Target Audience

Recommended for distributors or dealers

### Duration

0.5 Hours

### Class Prerequisites

None. This is an introductory level course.

### Class Size

N/A

### Materials Provided

N/A

### Price

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

## Piping & R-410A Refrigerant



### Course Objectives

- Refrigerant recovery & the atmosphere
- Properties of R-410A
- POE vs. PVE oil
- Identify line set components
- Daikin dedicated tools
- Flared connections & brazing
- Standard pressure test & leak testing
- Triple evacuation process
- Pipe insulation
- Importance of liquid charging

### Target Audience

Recommended for anyone

### Duration

1 Hour

### Class Prerequisites

None. This is an introductory level course.

### Class Size

Limited to 25 students

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

# ONLINE TRAINING

## Daikin Residential Product Line



### Course Objectives

- Review single-split outdoor & indoor product line-up
- Review multi-split outdoor & indoor product line-up
- Review general and technical specs of all components
- Understand Daikin model # nomenclature
- Understand general applications

### Target Audience

Recommended for distributors, contractors, residential sales personnel.

### Duration

0.5 Hours

### Class Prerequisites

None. This is an introductory level course.

### Class Size

N/A

### Materials Provided

N/A

### Price

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

## Daikin Commercial Product Line



### Course Objectives

- Review VRV outdoor & indoor product line-up
- Review general and technical specs of all components
- Understand Daikin model # nomenclature
- Understand general applications
- Frequently asked questions

### Target Audience

Recommended for anyone

### Duration

0.5 Hours

### Class Prerequisites

None. This is an introductory level course.

### Class Size

N/A

### Materials Provided

N/A

### Price

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

# ONLINE TRAINING

## VRV Product & Technology



### Course Objectives

- Daikin VRV concepts & characteristics
- VRV systems & product line-up
- General overview of VRV technology
- Describe inverter operation & benefits
- VRV Heat Pump & Heat Recovery
- VRV basic refrigeration piping specs
- VRV controls & communication wiring
- VRV controls product line-up

### Target Audience

Recommended for anyone

### Duration

2 Hours

### Class Prerequisites

None. This is an introductory level course.

### Class Size

Limited to 25 students

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

## New Product Overview\*



### Course Objectives

- Daikin AC product evolution
- New RA & RA-Multi systems
- New SkyAir product
- Daikin Altherma introduction
- VRV product additions

### Target Audience

Recommended for anyone

### Duration

1 Hour

\*OLOD Version – Summer 2013

### Class Prerequisites

None. This is an introductory level course.

### Class Size

Limited to 25 students

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

# ONLINE TRAINING

## NEC - National Electric Code



### Course Objectives

- Understand NEC that is applicable to Daikin systems and field wiring examples
- Understand wire sizing
- Understand circuit protection
- Understand cable types for plenums

### Target Audience

Recommended for anyone

### Duration

1 Hour

### Class Prerequisites

None. This is an introductory level course.

### Class Size

Limited to 25 students

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

## VRF Testing and Rating Standard AHRI 1230



### Course Objectives

- Review purpose and scope of AHRI Standard 1230 and why it is important to engineers, installers, contractors, and users
- Learn how AHRI 1230 will allow VRF manufacturers to test and certify full load (EER, COP) and part load (IEER)
- Learn how efficiency values are based on the total system performance
- Learn what are the minimum data requirements that all manufacturers must publish in the AHRI Directory

### Target Audience

Recommended for distributors & reps only.

### Duration

1 Hour

### Class Prerequisites

None. This is an introductory level course.

### Class Size

Limited to 25 students

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.



# ONLINE TRAINING

## LEED for New Construction Commercial Buildings



### Course Objectives

- Learn how Daikin equipment and systems can assist in earning LEED credits toward LEED certification
- Energy and Atmosphere credits
- Indoor Environment Quality credits
- Innovation in Design credits

### Target Audience

Recommended for distributors & reps only.

### Duration

2 Hours

**Currently Not Available**

### Class Prerequisites

None. This is an introductory level course.

### Class Size

Limited to 25 students

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

## Refrigerant Safety Considerations for VRF



### Course Objectives

- Understand occupancy classifications (ASHRAE 15, Section 4)
- Understand refrigerant system classification (ASHRAE 15, Section 5)
- Understand refrigerant safety classification (ASHRAE 34, Section 6)
- Understand refrigerant concentration limits (ASHRAE 34, Tables 1 & 2)
- Understand installation restrictions (ASHRAE 15, Section 8)

### Target Audience

Recommended for anyone

### Duration

1 Hour

### Class Prerequisites

None. This is an introductory level course.

### Class Size

Limited to 25 students

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

# ONLINE TRAINING

## Engineer Days – Session 1



### Course Objectives

- VRV vs. VRF
- VRV technology overview
- VRF energy legislation
- Optimizing designs for cost & efficiency

### Target Audience

Recommended for engineers & architects

### Duration

1 Hour

### Class Prerequisites

None. This is an introductory level course.

### Class Size

N/A

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

## Engineer Days – Session 2



### Course Objectives

- The Daikin Difference
- VRV vs. VRF class leading efficiency
- Class leading technology
- Control systems – DNet, BacNet, LonWorks
- Tools to cut design time in half

### Target Audience

Recommended for engineers & architects

### Duration

1 Hour

### Class Prerequisites

None. This is an introductory level course.

### Class Size

N/A

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

# ONLINE TRAINING

## VRV Xpress System Layout



### Course Objectives

- Understanding of VRV Xpress
- Selecting VRV equipment
- Producing submittal data for installers & design engineers
- Basic design layout
- Frequently asked questions

### Target Audience

Recommended for manufacturing reps

### Duration

2 Hours

### Class Prerequisites

None. This is an introductory level course.

### Class Size

Limited to 25 students

### Materials Provided

N/A

### Price

No training fees for prerecorded or instructor-led webinars.

## Mindleaders



### Course Objectives

- Customer service skills
- Selling skills
- HR topics
- Soft skills (ex: time management)
- Management skills
- Leadership skills
- And More!

### Target Audience

Recommended for anyone

### Duration

Various

### Class Prerequisites

None. This is an introductory courses.

### Class Size

N/A

### Materials Provided

N/A

### Price

OLOD courses are included with subscription pricing for Learning Management System - Fall 2012.

# WBT

## Web Based Training

**Anyone**  
**Anytime**  
**Anywhere...**

## Features

### ▶ Convenience.

You can study anywhere and anytime as long as you have a PC and Internet access. Because there is no need to go to a training facility, it is just right for those who are busy or who live in remote areas. You can also save travel and accommodation expenses. Refer to page two for current course list in English-USA.

### ▶ Easy-to-understand multimedia training materials.

Easy-to-understand training materials facilitate understanding incorporating narration, photographs and illustrations.

### ▶ Learn at your own pace.

You are free to study at your own pace, going through easy parts quickly and taking enough time for difficult parts. You can also review the sections you have already studied. Say goodbye to any problems keeping up with a lecture!!

✘ WBT provides basic study courses. If you are seeking more advanced courses, please attend classroom training available at our Daikin AC University training facilities. For more details, please visit our website: [www.daikinac.com](http://www.daikinac.com) or contact [training@daikinac.com](mailto:training@daikinac.com).

### □ \$25 / WBT Course

**Our \$299 Subscription includes our Proprietary WBT courses (listed above), Daikin AC developed courses, and 250 Mind Leaders management, leadership, and soft skills courses as part of our General Access Plus Package!**

## Daikin International Web-based Training Courses

Available Courses	No.	Course Name
Basic Air Conditioning	1.	Introduction to Air Conditioning
	2.	Classification of Air Conditioning Systems
	3.	Principles of Refrigeration
	4.	4 Components of Refrigeration Cycle & How it Works
	5.	4 Components of Refrigeration Cycle & 4-way Valves
	6.	Basic Knowledge of Heat and Pressure
	7.	Standard Operation State
	8.	Impact of Various Changes on Operation State
	9.	Simple Heat Load Calculation
	10.	Model Selection of Air Conditioners
	11.	The Basic Knowledge of Analog Relays
	12.	Refrigerant Types and Nomenclature
	13.	Air-Cooled and Water-Cooled Air Conditioners
	14.	Primary Electrical Components of Air Conditioners
	15.	Primary Electronic Components of Air Conditioners
	16.	The Primary Components of the Refrigeration Cycle Other than the Four Principle Components
	17.	The Primary Safety Devices of the Refrigerant Cycle
	18.	The Basics of Ventilation: Ventilation Methods and Required Ventilation Volume
	19.	How to Select Air Conditioning Units - VRVIII
Psychrometric Chart	20.	How to Read Psychrometric Chart
	21.	Utilization: Mixture of Air
	22.	Utilization: Heating, Humidifying, Cooling, & Dehumidifying
P-h Chart	23.	Introduction to P-h Chart
	24.	P-h Chart and Coefficient of Performance
Basic Work	25.	How to Use Testers and Clamp Meters
	26.	How to Use Megger Testers and Thermometers
	27.	How to Use Gauge Manifolds
	28.	Flaring Procedures
	29.	Procedures for Refrigerant Pipe Bending
	30.	Setting of Acetylene Welders
	31.	Flare Connection and Handling of the Service Ports & Stop Valves

URL: <http://www.dtas.daikin.co.jp/>

Available Courses	No.	Course Name
Basic Work (cont.)	32.	Vacuum Drying
	33.	Procedures for Additional Refrigerant Charge (Sky Air)
	34.	Pump Down Procedures
	35.	Procedures for Refrigerant Recovery
	36.	Air Tightness Test
	37.	Basics of Brazing Work
	Test Run	38.
39.		How to Run Test Run Data – Sky Air Edition
40.		How to Run Test Run Data – VRV Edition
Troubleshooting	41.	Wired Remote Controller: How to Use “Inspection” Mode
	42.	Wireless Remote Controller: How to Use “Inspection” Mode
	43.	Wired Remote Controller: How to Use the Service Mode
	44.	Wired Remote Controller: Malfunction Codes
	45.	Methods of Diagnosing Malfunction Codes: A3 and AF
	46.	Methods of Diagnosing Malfunction Codes: Malfunction Code: A0 (with related functions)
	47.	Methods of Diagnosing Malfunction Codes: E3 and JA
	48.	Methods of Diagnosing Malfunction Codes: E4 and JC
	49.	Methods of Diagnosing Malfunction Codes: E6 and J2
	50.	Methods of Diagnosing Malfunction Codes: C4
	51.	Methods of Diagnosing Malfunction Codes: A9 and E9
	52.	Methods of Diagnosing Malfunction Codes: U5 and U8
	53.	Methods of Diagnosing Malfunction Codes: U4 and U9
	54.	Methods of Diagnosing Malfunction Codes: L5, L8 and L9
	55.	Malfunction Diagnosis using Outdoor PCB
Installation	56.	Pre-Installation Checks
	57.	Installation Flow and Precautions
	58.	Examples of VRV Installation Problems (Indoor Units)
	59.	Key Points of VRV Refrigerant Piping Installation
	60.	Key Points of Drain Piping Installation (VRV and Sky Air)
	61.	Remote Control Wiring
	62.	Overview of VRV Control Wiring and Wiring Precautions

URL: <http://www.dtas.daikin.co.jp/>

Available Courses	No.	Course Name
	63.	Indoor Unit Installation Points
	64.	Key Points for VRV Outdoor Unit Installation
	65.	Local Setting with Remote Controller
	66.	Field Setting with Outdoor Unit PCB
	<b>NEW</b> 67.	Refrigerant Pip Selection for the VRV8 Heat Pump System (for USA)
	<b>NEW</b> 68.	Operating Instructions and Delivery – Sky Air Ceiling Mounted Cassette Type
<b>Product Knowledge</b>	69.	Principles of Reluctance DC Motors
	70.	Principles of Inverter Control
	71.	Why are Inverter ACs Energy Efficient?
	72.	VRV System Features
	73.	Duct Design Procedures for the Ceiling Mounted Built-in Type
	74.	The Basics of Sound
	75.	Soundproofing Plans for AC Equipment
<b>New Refrigerants</b>	76.	Fluorocarbons and the Earth's Environment
	77.	Properties of New Refrigerant & Key Points for Use
<b>Customer Satisfaction</b>	78.	Customer Satisfaction for Service Engineer

Daikin AC reserves the right to make changes at their discretion.  
The content in this leaflet is current as of January 2013 and is subject to  
change without notice.

**Daikin AC (Americas), Inc.**  
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Carrollton, TX 75006 USA

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FAX: 972-245-1038

# CLASSROOM TRAINING

**We offer regularly scheduled classes at our Daikin Authorized Training Facilities listed below:**

- Carrollton, TX: Daikin AC University
- Irvine, CA: Daikin AC University
- Long Island City, NY: Daikin AC University
- Davie, FL: Daikin-McQuay
- Marietta, GA: Daikin-McQuay
- Greensboro, NC: Hoffman & Hoffman
- Houston, TX: DXS
- Montreal, Canada: EMCO
- Pittsburgh, PA: Allegheny Engineering
- New Hudson, MI: Behler-Young
- New Haven, CT: Star Supply
- Woburn, MA: F.W. Webb
- West Caldwell, NJ: Wallwork
- Long Island City, NY: Wallwork
- Memphis, TN: Ewing Kessler
- Philadelphia, PA: URI
- Boise, ID: Innovative Air

**More Locations Coming Soon!**

Continental breakfast & lunch is provided in Daikin Authorized training facilities.

Hotel information with Daikin AC rate discounts will be emailed with the class confirmation.

8 HR classes will be completed in one day

16 HR classes will be completed in two days



**Class is available for onsite training.**



**Course is approved for NATE Continuing Education Credits.**

**PDH/CEU\***

**Course is approved for Professional Development Hours and in most states for Continuing Education Credit for engineers.**



# NATE CONTINUING EDUCATION CREDITS



*Daikin AC University is pleased to announce that as of January 1, 2012 the following classes have been NATE Certified.*

## Current NATE Certified Classes:

- Residential Light Commercial Install & Startup, 1 day course
- Residential Light Commercial Install & Commissioning, 1 day & 2 day courses
- Residential Light Commercial Service & Troubleshooting, 1 day course
- Residential Light Commercial Product & Applications, 1 day course
- Daikin Altherma Install & Commissioning, 1 day course
- Daikin Altherma Product & Applications, 1 day course
- Controls Install & Commissioning, 1 day course
- Controls Product & Applications, 1 day course
- Controls Integrator, 1 day course
- VRV Product, Design & Applications – Level 1, 2 day course
- VRV Install & Commissioning, 1 day & 2 day courses
- VRV Service & Troubleshooting, 1 day & 2 day courses
- VRV Service Checker, 1 day course
- Applications: Selection Tools, 1 day course
- Lunch & Learns: (Residential/Light Commercial Product)

**Daikin AC University is now an approved NATE testing organization!**

Contact [training@daikinac.com](mailto:training@daikinac.com) for schedule & location information.

Daikin AC reserves the right to make changes at their discretion.

The above list is current as of August 2012 and is subject to change without notice.

# CONTINUING EDUCATION GUIDELINES

*Daikin AC University provides a certificate of completion that includes the number of PDH (Professional Development Hours) for all attendees of qualified training courses.*

## **Florida**

In the state of Florida, Daikin AC University has been approved as a **provider** of continuing education; *specific courses* have been approved for continuing education.

## **Louisiana**

In the state of Louisiana, Daikin AC University has been approved as a **provider** of continuing education.

## **North Carolina**

In the state of North Carolina, Daikin AC University has been approved as a **provider** of continuing education for Professional Engineers and Surveyors.

## **New York (PIE , Practicing Institute of Engineering)**

In the state of New York, *specific courses* have been approved for continuing education.

## **Remaining States**

States not listed above currently do not have a Continuing Education requirement. As with all training courses, Daikin AC University requires prior notification of any event that a Certificate of Completion is requested. All Daikin AC University certificates will indicate the Professional Development Hours (PDH) of the course completed.

## **Professional Development Hours (PDH):**

For every hour of (training) time, 1 (one) Professional Development Hour will be given. Every 10 PDH = 1 CEU (continuing education unit).

# ONSITE TRAINING

**Onsite training available upon request**

## Onsite Training

A Daikin authorized trainer provides training at a customer office or training site (not an install job-site) for sales or technical training. Not all classes can be trained onsite. Please contact [training@daikinac.com](mailto:training@daikinac.com) for requests or more details.

Customized classes are available and must be approved by the Training Manager.

Price of the onsite will be determined by the base price plus materials and expediting if necessary.

### **Current Approved Onsite Classes:**


- VRV Install & Commissioning
- VRV Product, Design & Applications - Level 1
- RLC Install & Commissioning
- RLC Service & Troubleshooting
- RLC Product & Applications
- Daikin Altherma Install & Commissioning
- Daikin Altherma Product & Applications
- Controls Product & Applications
- Controls Integrator Training

Training Location	Base Price	Each Additional Day
Contiguous United States	\$1950	\$750
Hawaii & Alaska	Call for Pricing	Call for Pricing
US Territories	Call for Pricing	Call for Pricing
Canadian Provinces	Call for Pricing	Call for Pricing

# VRV TRAINING

From lightweight, yet powerful outdoor units to quiet, elegant indoor units, Daikin<sup>®</sup> systems offer innovative and advanced product features that deliver the optimum in air conditioned comfort and control. Our systems are energy efficient, easy to install, and are designed to fit virtually any environment.

Daikin AC University offers the following classroom training:

- VRV Install & Commissioning
  - VRV Service & Troubleshooting
  - VRV Service Checker
  - VRV Product, Design & Applications – Level 1
  - Applications: Selection Tools
- 

# VRV Install Only

## Course Objectives

- Review Piping & R-401A refrigerant
- VRV product and technology
- Review installation procedures

## Target Audience

Commercial Contractors, Installation Foremen & Crews, Professional Engineers, Sales, Service Personnel

## Duration

6 HR course – Lecture only

## Class Prerequisites

None, this is an introductory level course

## Class Size

Limited to 20 students

## Price

Onsite Pricing Applies

Available upon request.



PDH/CEU\*

# VRV Commissioning Only

## Course Objectives

- Review installation procedures
- VRV Controls wiring & DIII Net communications
- Review commissioning procedures

## Target Audience

Commercial Contractors, Installation Foremen & Crews, Professional Engineers, Sales, Service Personnel

## Duration

4 HR course – Lecture only

## Class Prerequisites

VRV Install Only

## Class Size

Limited to 20 students

## Price

Onsite Pricing Applies

Available upon request.



PDH/CEU\*

# VRV Install & Commissioning

## Course Objectives

- Daikin AC Introduction & history
- Review Piping & R-401A refrigerant
- VRV product and technology
- Review installation procedures
- VRV Controls wiring & DIII Net communications
- Review commissioning procedures
- Hands-on activities & practice

## Target Audience

Commercial Contractors, Installation Foremen & Crews, Professional Engineers, Sales, Service Personnel

## Duration

16 HR course includes hands-on activities  
8 HR course – Lecture only

## Class Prerequisites

None, this is an introductory level course

## Class Size

Limited to 20 students

## Price

8 HR course: \$179  
16 HR course: \$229



PDH/CEU\*

# VRV Service & Troubleshooting

## Course Objectives

- Understand basic operation principles at each stage of operation
- Wiring schematics, VRV components
- Demonstrate refrigerant flow software & how to use for diagnostics
- How to trace refrigerant flow
- Learn advanced field settings
- Learn advanced troubleshooting using Daikin Service Checker
- Hands-on activities & practice

## Target Audience

Contractors/Dealer & Rep/Distributor who have installed & commissioned Daikin VRV systems.

## Duration

16 HR course includes Service Checker training  
8 HR course does not include Service Checker training – Lecture only.

## Class Prerequisites

VRV Install & Commissioning

## Class Size

Limited to 10 students

## Price

8 HR course: \$179  
16 HR course: \$229

*The 16hr class is mandatory prior to purchasing a Daikin Service Checker.*



PDH/CEU\*

# VRV Service Checker

## Course Objectives

- Learn what a Daikin Service Checker is and what it can do to help diagnose problems with VRV systems
- Learn advanced troubleshooting using the Daikin Service Checker
- How to hook up the Service Checker
- How to export data and convert to a graph for diagnostics
- Hands-on activities & practice

## Target Audience

Contractors/Dealer & Rep/Distributor who have installed & commissioned Daikin VRV systems.

## Duration

8 HR course with hands-on activities

## Class Prerequisites

VRV Install & Commissioning  
VRV Service & Troubleshooting

## Class Size

Limited to 10 students

## Price

8 HR course: \$179

*This class is mandatory prior to purchasing a Daikin Service Checker. This class is not needed if you have attended the 16 HR VRV Service & Troubleshooting course.*



PDH/CEU\*

# VRV Product & Applications

## Course Objectives

- Daikin AC introduction & history
- The Daikin Difference
- Commercial product line up & features, functions & benefits
- Competitive comparisons & product positioning
- Intro to Daikin controls
- Applications & case studies
- Software selection tools: Xpress, TRL, and EnergyCalc basics

## Target Audience

VRV sales personnel, reps, engineers and architects

## Duration

16 HR course

## Class Prerequisites

None. This is an introductory level course.

## Class Size

Limited to 20 students

## Price

16 HR course: \$299

*This is not a service course. Attendee will not learn how to install or troubleshoot the unit.*



PDH/CEU\*

# VRV Product, Design & Applications – Level 1

## Course Objectives

- Daikin AC introduction & history
- VRV product & technology
- VRV product line review
- Controls and integration
- Regulations and efficiency ratings
- Applications & case studies
- Software selection tools: Xpress, TRL, and EnergyCalc
- System selection & design

## Target Audience

VRV sales personnel, reps, engineers, architects.

## Duration

16 HR course

## Class Prerequisites

Recommended: VRV Product & Applications

## Class Size

Limited to 20 students

## Price

16 HR course: \$299

*This is not a service course. Attendee will not learn how to install or troubleshoot the unit.*



PDH/CEU\*

# Applications: Selection Tools

## Course Objectives

- Review Technical Resource Library (TRL) and how to use
- Review VRV Xpress and how to use
- Review EnergyCalc and how to use
- Hands-on activities & practice

## Target Audience

Recommended for manufacturing reps

## Duration

8 HR course with hands-on activities

Available upon request at TX training facility.

## Class Prerequisites

None. This is an introductory level course.

## Class Size

Limited to 20 students

## Price

8 HR course: \$179

*Must bring laptops with TRL & VRV Xpress software installed.*



PDH/CEU\*



# CONTROLS TRAINING

With Daikin<sup>®</sup>'s super-intelligent, user-friendly system controllers, you can create Absolute Comfort™ quickly and easily. Their advanced functionality and easy-to-read liquid crystal displays (LCDs) allow you to orchestrate and monitor temperature, time, airflow volume and more across your entire system at the touch of button.

Daikin AC University offers the following classroom training:

- Controls Product & Applications
- Controls Install & Commissioning
- Controls Integrator

# Controls Product & Applications

## Course Objectives

- VRV system overview
- Controls product & technology
- Individual zone controllers / changeover master & remote control groups
- Remote controller sensors
- Daikin DIII-Net architecture
- Indoor unit sequence of operation & Integration strategies
- Applications & case studies
- Hands-on activities & practice

## Target Audience

Counter or sales personnel, distributors, reps, those new to Daikin controller technology.

## Duration

16 HR course

8 HR course available upon request

## Class Prerequisites

None. This is an introductory level course.

## Class Size

Limited to 10 students

## Price

8 HR course: \$179

16 HR course: \$229



PDH/CEU\*

# Controls Install & Commissioning

## Course Objectives

- Product introduction
- Installation requirements
- Centralized Controller Startup & Commissioning Procedures
- Theory – 100% Hands On

## Target Audience

Contractors/Dealer & Rep/Distributor who will be installing or servicing Daikin Centralized Controls & Gateways.

## Duration

16 HR course with second day hands-on using controls simulators– CA only

8 HR course available upon request – CA only

## Class Prerequisites

VRV Install & Commissioning  
Control Product & Applications

VRV Service & Troubleshooting (recommended)

Recommended to bring laptops to class

## Class Size

Limited to 10 students

## Price

8 HR course: \$179

16 HR course: \$229

*Daikin training facility in Irvine, CA only.  
Coming soon to TX facility.*



PDH/CEU\*

# Controls Integrator

## Course Objectives

- VRV system overview & Daikin DIII-Net architecture
- Individual zone controllers / changeover master & remote control groups
- Remote controller sensors
- Indoor unit sequence of operation
- Multi-zone controllers
- Integration with building management systems – BACnet & Lonworks
- Integration strategies and program

## Target Audience

Controls Integrators, distributors, and reps that are involved Daikin controls integration.

## Duration

8 HR course

## Class Prerequisites

None. This is an introductory level course. Basic integration knowledge recommended.

## Class Size

Limited to 15 students

## Price

8 HR course: \$179



PDH/CEU\*


# RESIDENTIAL/LIGHT COMMERCIAL

From our compact, yet powerful outdoor units to our quiet concealed or wall-mounted units, Daikin<sup>®</sup> systems offer the kinds of innovative and unique product features that deliver the optimum in air conditioned comfort and control.

Daikin AC University offers the following classroom training:

- RLC Install & Start Up
- RLC Install & Commissioning
- RLC Service & Troubleshooting
- RLC Product & Applications

\*Residential / Light Commercial is abbreviated “RLC” in course descriptions



# RLC Install & Start Up

## Course Objectives

- Daikin AC Introduction & history
- 4-wire systems product & technology
- Review installation requirements
- Review installation techniques
- Review start up procedures
- Hands-on activities & practice

## Target Audience

Contractors, Installers, Service Technicians,  
Distributors, Inside and Outside Sales

## Duration

8 HR

16 HR course - this is the first day

## Class Prerequisites

None, this is an introductory level course

## Class Size

Limited to 20 students

## Price

8 HR course: \$179



PDH/CEU\*

# RLC Install & Commissioning

## Course Objectives

- RLC Install & Start Up on the first day
- DIII Net systems product & technology
- Review installation requirements
- Review installation techniques
- Review commissioning procedures
- Hands-on activities & practice

## Target Audience

Contractors, Installers, Service Technicians,  
Distributors, Inside and Outside Sales

## Duration

16 HR course

8 HR DIII Net Systems only (second day)  
available upon request

## Class Prerequisites

None, this is an introductory level course

## Class Size

Limited to 20 students

## Price

16 HR course: \$229



PDH/CEU\*

# RLC Service & Troubleshooting

## Course Objectives

- Review installation & start up basics
- How to use Service Tools (D-Checker, Inverter Analyzer, DC Motor Checker, & EEV Tool)
- Understanding error codes
- Servicing residential equipment
- How to maintain residential equipment
- Best practices for service & troubleshooting
- Hands-on activities

## Target Audience

Contractors, Installers, Service Technicians

## Duration

8 HR course with hands-on activities

## Class Prerequisites

RLC Installation & Start Up (4-wire)

## Class Size

Limited to 10 students

## Price

8 HR course: \$179

*Please bring meter to class so it can be used on equipment.*

*This class is for residential equipment only and does not include light commercial equipment.*



PDH/CEU\*

# RLC Product & Applications

## Course Objectives

- Daikin AC introduction & history
- The Daikin Difference
- Product line up, including features, functions & benefits
- Competitive comparisons & product positioning
- Applications and case studies
- VRV Xpress overview
- 3D Dealer program overview

## Target Audience

Inside and Outside Sales

## Duration

8 HR course

## Class Prerequisites

None. This is an introductory level course.

## Class Size

Limited to 20 students

## Price

8 HR course: \$229

*This is not a service course. Attendees will not leave with installation or servicing knowledge.*




PDH/CEU\*

# DAIKIN ALTHERMA TRAINING

Daikin Altherma, the home heating solution that connects to underfloor heating, low temperature radiators and fan coil units. Daikin has more than 50 years of experience in the production of air source heat pump systems, manufacturing over a million units a year for residential & commercial applications. Our product innovations provide you with high energy efficiency solutions minimizing the impact on the environment and running costs.

Daikin AC University offers the following classroom training:

- Daikin Altherma Product & Applications
  - Daikin Altherma Install & Commissioning
- 

# Daikin Altherma Product & Applications

## Course Objectives

- Daikin AC introduction & history
- Introduce Daikin Altherma product including features, functions & benefits
- Applications & case studies
- Review installation requirements
- Daikin Altherma system operation & control features and options
- Daikin Altherma accessories overview
- How to select the correct size system using selection software

## Target Audience

Contractors, Service and Maintenance Personnel who will be installing or servicing Daikin Altherma systems.

## Duration

8 HR course

## Class Prerequisites

None, this is an intermediate level course and will be introducing Daikin Altherma an air-to-water heat pump hydronic system. This is not a hydronic course, although basic hydronic considerations are covered.

## Class Size

Limited to 20 students

## Price

8 HR course: \$229



PDH/CEU\*

# Daikin Altherma Install & Commissioning

## Course Objectives

- Pre-Install planning
- Split installation (Hydro-box/Cond.)
- Mono-bloc installation
- Domestic water tank installation
- Solar option installation
- Daikin fan coil installation
- Water piping planning and design
- Startup & commissioning procedures
- User interface programming
- Daikin Altherma service

## Target Audience

Contractors, service and maintenance personnel who will be installing or servicing Daikin Altherma.

## Duration

8 HR course

## Class Prerequisites

Daikin Altherma Product & Applications (recommended)

## Class Size

Limited to 20 students

## Price

8 HR course: \$179



PDH/CEU\*



# GENERAL INFORMATION

## **Cancellation Policy:**

Training fees are not refundable. Should you need to cancel, your paid fees will be transferred to the next available class at no additional charge. Daikin AC University reserves the right to cancel class due to weather, illness, or any other reason. All students will be notified as early as possible and paid fees will be transferred to the next available class at no additional charge.

## **Confirmations:**

Confirmations will be sent via email to the address provided on the registration within two business days. Please include an email address when registering for class.

## **Registrations:**

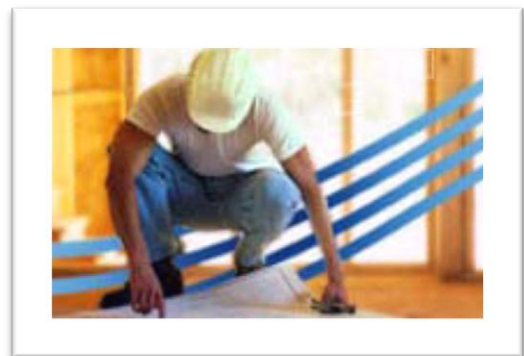
It is our goal to make the registration process as easy and convenient for you as possible. For this reason, we offer ONLINE registration for all of our classes. Please go to [www.daikinac.com](http://www.daikinac.com) and click on the training tab to get to our home page. You may also use a registration form and submit it to the training department via email to [training@daikinac.com](mailto:training@daikinac.com) or fax 972-245-1038.



## Thank you for your interest in Daikin AC University!

Please be sure to visit our website for all training dates, locations, travel arrangements, and other training information.

**Our mission is to offer our customers the best training in the industry, exhibited by a variety of quality training programs designed to provide the tools and resources needed for our customers to be successful.**



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Web: [www.daikindifference.com](http://www.daikindifference.com)  
Web: [www.daikinac.com](http://www.daikinac.com)



**We look forward to seeing you soon!**

*Daikin AC University Training Team*

## WARNINGS:

- Always use a licensed installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a licensed contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.
- For any inquiries, contact your local Daikin sales office.



Use of the AHR Certified™ mark indicates a manufacturer's participation in the certification program. For verification of certification for individual products, go to [www.ahrirectory.org](http://www.ahrirectory.org)



Organization:  
DAIKIN INDUSTRIES, LTD.  
AIR CONDITIONING MANUFACTURING DIVISION

Scope of Registration:  
THE DESIGN/DEVELOPMENT AND MANUFACTURE OF COMMERCIAL AIR CONDITIONING, HEATING, COOLING, REFRIGERATING EQUIPMENT, COMMERCIAL HEATING EQUIPMENT, RESIDENTIAL AIR CONDITIONING EQUIPMENT, HEAT RECLAIM VENTILATION, AIR CLEANING EQUIPMENT, MARINE TYPE CONTAINER REFRIGERATION UNITS, COMPRESSORS AND VALVES.



Organization:  
DAIKIN INDUSTRIES  
(THAILAND) LTD.

Scope of Registration:  
THE DESIGN/DEVELOPMENT AND MANUFACTURE OF AIR CONDITIONERS AND THE COMPONENTS INCLUDING COMPRESSORS USED FOR THEM.



All of the Daikin Group's business facilities and subsidiaries in Japan are certified under the ISO 14001 international standard for environmental management.

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For Information

For all equipment installation & application limitations please refer to the specific Engineering Data Books.

Daikin's products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this brochure without notice and without incurring any obligations.