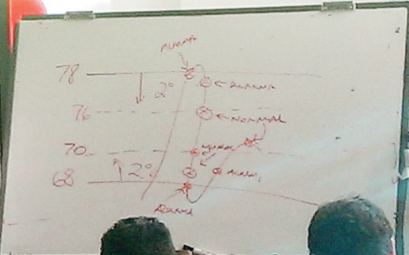




# Course Catalog



*Authorized Training for Trane Systems and Solutions*  
*Building Systems and Controls*

*Technical Service*

**2019**





# Welcome



Engage. Learn. Achieve.

**Trane University™** is here to deliver Learning and Development solutions by being the industry leader in providing innovative and dynamic education and skill improvement.

Our industry-leading training empowers customers to develop a high level of proficiency operating and optimizing their equipment, controls and building systems. Trane University integrates innovative teaching technologies for instructor-led, distance learning and online courses and webinars. We use interactive and hands-on experience as well as Trane-developed tools for load, system, energy and economic analysis.

Experienced professional instructors have strong controls and HVAC service backgrounds and are familiar with Trane equipment. They draw on the expertise of Trane applications engineers, product engineers, technical support engineers and product development teams to provide the best training possible.

Trane University professional education is offered through two tracks.

1. **Building Systems and Controls Training**, focusing on system design and optimization, is valuable for
  - Facility owners and management
  - Engineers
2. **Technical Service Training**, focusing on operation, maintenance and troubleshooting, was developed for:
  - HVAC service and maintenance technicians
  - Maintenance supervisors
  - Mechanical contractors

Thank you for trusting us for your comprehensive training.



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For a current schedule visit our website:

[www.trane.com/traneuniversity](http://www.trane.com/traneuniversity)



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Call 855-803-3563

Email [traneuniversity@trane.com](mailto:traneuniversity@trane.com)

Log on to [Trane Education Center](#)

For a current schedule visit our website  
[www.trane.com/traneuniversity](http://www.trane.com/traneuniversity)

Trane University™ builds knowledge systematically with a proven curriculum, expert instructors and structured learning paths.

# Enrollment

## Registration

Browse current course schedules anytime at [Trane.com/traneuniversity](https://Trane.com/traneuniversity).

To register for training, please set up an individual account for each registrant on [Trane.com/tec](https://Trane.com/tec). Then you can search and select the class(es) you need. See our FAQ section for step by step instructions.

Note: Trane reserves the right to reject any training course enrollment.

## Payment

Payment can be made by:

- Major credit card (for fastest confirmation)
- Purchase order (PO number must be entered when enrolling online)
- Check (paid to "Trane U.S. Inc.")

Checks can be sent to: Trane 4833 White Bear Pkwy, St. Paul, MN 55110 Attn: Trane University

## Email Confirmation

The Trane Education Center will email a confirmation at the address you provide in your online profile. You may receive a second confirmation email if the course had not confirmed (hit the minimum number of students) when you registered. *This confirmation email provides a link for information on travel accommodations.* If you don't get an enrollment confirmation, please check your junk mail or make sure Trane Education Center is recognized as a valid sender by your email client. Call us at 855-803-3563 if you have questions.

*Please do not make travel arrangements until you receive a confirmation email that includes a travel link.*

## Course locations

- Building Systems and Controls Courses:  
Trane, St. Paul, Minnesota\*
- Technical Service Training Courses:  
Trane, La Crosse, Wisconsin\*
- Regional and Private Classes:  
Local Trane Sales Offices

Some Technical Service Training courses can be customized at your request and conducted at a Trane sales office or at your site. Call 855-803-3563 to discuss your training needs.

\*Except where noted in course description

## Hotel and Food Information

Hotel recommendations are given for each course. Students are responsible for making their own travel arrangements. Our travel partner, BCD Travel, is a resource for all students to receive discounted rates at our preferred hotels. Contact information for BCD Travel is provided on our travel information page for each class.

For St. Paul and La Crosse class locations: the preferred hotels provide transportation to and from class each day.

Trane provides lunches for full day class sessions. Please indicate any dietary restrictions in the Trane Education Center profile.

## Federal Government

Training provided by Trane University™ is listed in the GSA Federal Supply Schedule.

## International Students

The technical seminars offered by Trane University are fast paced and conducted in English. Therefore, to receive the full benefit from the training, it is essential that the student speak, read, and understand spoken English competently, including technical terms.

*Customers located outside the U.S. must enroll through the Trane office in their region.* Approval is required by the local Trane Office in writing before registration can be completed. Any registration that has been approved must be completed with a credit card payment only. Trane also requires all international students to complete a Business Visa Form, to be submitted to the Trane Global Immigration Services team.

## Accredited programs

Trane University is accredited by the International Association for Continuing Education and Training (IACET). Trane University complies with the ANSI/IACET Standard, which is recognized internationally as a standard of excellence in instructional practices. As a result of this accreditation, Trane University is authorized to issue the IACET Continuing Education Unit (CEU)..

Trane University and its instructors receive no compensation for any products, instruments, devices, services or materials presented or discussed in training events.

Trane University staff use formal and informal assessment methods during the training program to allow them to modify activities to improve student outcomes.



## Transcripts

Student transcripts are considered confidential. They are accessible by the student in the Trane Education Center. To access your learning transcript log into the TEC and run the Transcript from the Reports menu. If you wish to request release of your training transcript to others, please contact us at [traneuniversity@trane.com](mailto:traneuniversity@trane.com) to request a Transcript Authorization form.

## Discounts

### Early-Bird

Any class registrations received a minimum of 60 days before the class begins will receive a 10% “early-bird” tuition reduction.

### Training Packages

Trane University Training Packages are designed to help you save money when you send one or more people to a class or several classes. This program works by pre-paying for training credits, each credit is equivalent to one dollar, which can reduce your cost by up to 40%.

GOLD Training Package - Most Popular!

- Includes 7,800 credits
- Package cost \$6,000
- up to 4 courses for the price of 3
- Gold credits are valid for one year

GOLD PLUS Training Package

- Includes 11,700 credits
- Package cost \$9,000
- up to 6 courses for the price of 4
- Gold credits are valid for one year

PLATINUM Training Package

- Includes 47,500 credits
- Cost \$30,000
- up to 25 courses for the price of 15
- Platinum credits are valid for two years

Login to the Trane Education Center to purchase a training package.

We will contact you within 24 hours to provide your Package code, your credits can be applied immediately. For your convenience, we track the credits your company has used and send periodic updates showing your available credits.

## Policies

### Cancellation Policy

You may cancel a registration up to 14 days before the course start date without penalty. Any cancellation made after that is subject to full tuition cost (student substitutions are allowed). If you do not cancel and do not come to class, you are considered a no-show. All no-show participants will be charged full tuition (including Trane Employees).

Trane University reserves the right to cancel any class. We will notify you of class cancellation on or before 14 days prior to the class start date. We are not responsible for any travel costs related to a class cancellation.

### Building Security

Attendees are issued a temporary identification badge upon arrival and are required to display the badge on their person throughout the duration of the course.

### Tobacco Policy

Our facilities are tobacco-free. Designated tobacco areas are provided outside of the building.

### Photo Policy

*Applies to Technical Service Training only.*

Photography inside the Technology Center requires special authorization. Check photography equipment with our security department when entering the building.

### Proper Clothing

Normal work or business casual attire is required. Shorts, sandals and flip-flops are not appropriate. Long pants and long-sleeve shirts of 100 percent cotton must be worn for Technical Service Training which involves lab equipment with live electrical circuits. Closed-toe leather shoes and long pants are required for plant tours.

*Take individual courses or build proficiency by following a course progression. Register online at [Trane.com/tec](http://Trane.com/tec).*

# Building Systems and Controls Training



Trane University™ currently offers five instructor-led courses for building owners, operators and building system engineers.

## Class Location

Our instructor-led courses are delivered at the Trane Technical Training Center in White Bear Lake (St. Paul), Minnesota, and are also offered regionally in local Trane offices.

## Choosing Your Classes

View the step-by-step class progression flow charts, which outline learning components for each Trane system: Tracer® Summit™, Tracer® SC/UC/Synchrony™ or Tracer® Ensemble™.

## Register Online at the Trane Education Center

All course enrollments must be completed online via the Trane Education Center. Each person that wants to attend a course needs to have their own profile.

All registrations received a minimum of 60 days before the start of class will receive our Early-Bird discount of 10%. (Excludes purchases made with one of our Package Programs.)

## Continuous Product Improvement

We strive to provide current information on our products. With that in mind, Trane may change course design and/or content without notice.

## Private Training

Trane University can provide private training if you are unable to attend one of our scheduled classes. Contact us for more information.

Note: Not all classes are available for private training.

[Click here](#) for the Building Systems and Controls schedule or go to our website [www.trane.com/traneuniversity](http://www.trane.com/traneuniversity).

Course	Regular Tuition	Early-Bird Rate
Tracer® Ensemble™ Operation	\$1,320	\$1,188
Tracer® Synchrony™ Operation	\$1,320	\$1,188
Tracer® Synchrony™ Advanced Operation	\$1,320	\$1,188
Tracer® Summit™ System Operation	\$1,550	\$1,395



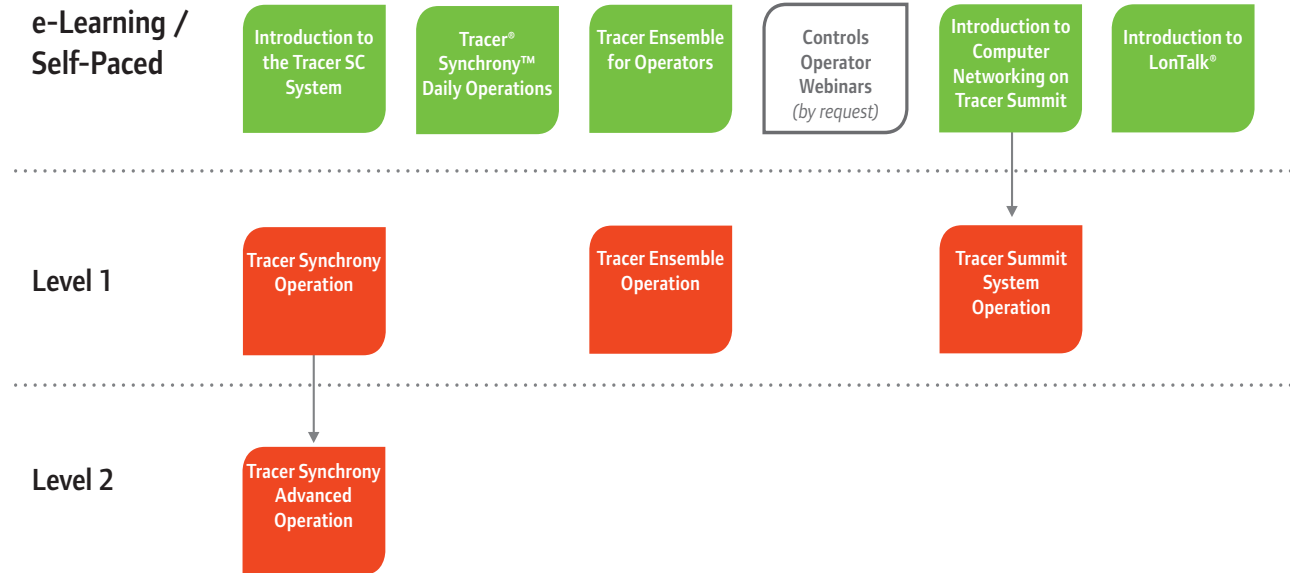
## COURSE PROGRESSION

Tracer® SC+/UC/Synchrony™, Tracer® Ensemble™, Tracer® Summit™

### Legend

 = Instructor Led Training

 = eLearning / Self-Paced Material



BUILDING SYSTEMS AND CONTROLS TRAINING

# Tracer® Ensemble™ Operation

**Length:**  
2.5 days

**Day and time:**  
Day 1-2: 8 a.m.–4:30 p.m.;  
Day 3: 8:00 –11:30 a.m.

**Course Cost:**  
\$1320

**Continuing Education**  
**Units:**  
1.8

**Recommended search:**  
Ensemble Operation

Register Now! Trane Education Center

## Course Description

Tracer Ensemble Operation is specifically designed for building operators and administrators to become more efficient with their Tracer Ensemble software which is a Web-enabled service and monitoring tool for multiple building facilities. Tracer Ensemble allows building operators and administrators access to Tracer Ensemble from the local network or the Internet to monitor and control their building system. Students will have the opportunity to work with the Tracer Ensemble software to become more familiar with common tasks.

## Specific Course Objectives

Upon completion of this course, participants should be able to:

- Create user roles and user profiles
- Navigate Tracer Ensemble Buildings
- Use override control to manipulate building systems
- Make changes to building schedules
- Manage building alarms
- Log data
- Create custom reports
- Set up Tenant Services
- Use Critical Control to limit access in Tracer Ensemble

## Who Should Attend

Tracer Ensemble Operation is intended for building operators and owners with Tracer Ensemble.

## Prerequisites

This is an operations-level class. Students must have an operating-level understanding of personal computers and the Windows operating system. Students must possess knowledge of Tracer® Summit™ or Tracer® SC/Synchrony™ depending upon which system is installed in their facility.

## Pre-Work

None



## Tracer® Synchrony™ Operation

**Length:**

2.5 days

**Day and time:**

Day 1-2: 8 a.m.–4:30 p.m.;  
Day 3: 8:00 –11:30 a.m.

**Course Cost:**

\$1320

**Continuing Education**

**Units:**

1.8

**Recommended search:**

Synchrony Operation

Register Now! Trane Education Center

### Course Description

In the Tracer Synchrony Operation course, students learn to operate and modify an installed Tracer SC+ system using the Synchrony interface. This highly interactive course includes presentations, demonstrations and hands-on workshops where students practice using the software applications integral to a Tracer SC+ building management system.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Determine the need for and sequence of operation of various types of HVAC equipment.
- Describe the different levels of control in a building automation system and how they relate to equipment.
- Monitor and control building mechanical systems.
- Utilize contract documentation to identify control Components and locations.
- Create new user accounts and control their level of access within Tracer Synchrony.
- Navigate the Tracer Synchrony user interface.
- Create and modify custom time-of-day schedules.
- Apply knowledge of schedules, area, and variable air system applications to control building air systems.

- Respond to hot and cold calls by applying troubleshooting strategies
- Respond to alarm conditions.
- Generate and view data logs and reports.
- Back up your Tracer SC+.

### Who Should Attend

Tracer Synchrony Operation is intended for Trane service technicians and Tracer SC/SC+ system owners, building engineers and operators.

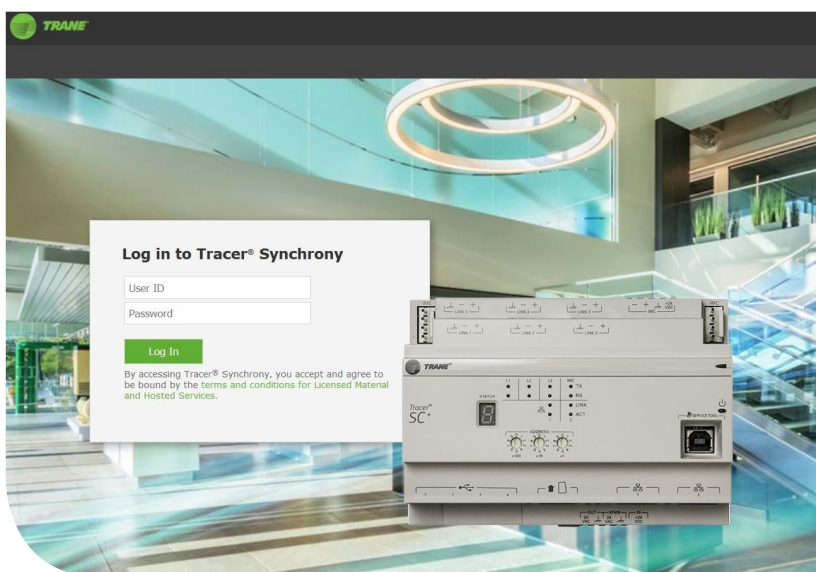
### Prerequisites

Introduction to the Tracer SC System e-learning module is recommended but not required.

### Pre-Work

None

BUILDING SYSTEMS AND CONTROLS TRAINING



# Tracer® Synchrony™ Advanced Operation

**Length:**  
3 days

**Day and time:**  
Day 1–3: 8 a.m.–4:30 p.m.

**Course Cost:**  
\$1320

**Continuing Education  
Units:**  
2.1

**Recommended search:**  
Advanced Operation

Register Now! Trane Education Center

## Course Description

The Tracer Synchrony Advanced Operation course builds on the knowledge and skills learned in the Tracer SC/Synchrony Operation course. This course will enable learners to expand their skillset to complete a variety of advanced operations, control strategies and energy saving methods to get the most value out of their Tracer SC+ building control system.

## Specific Course Objectives

Upon completion of this course, participants should be able to:

- Define and apply coordinated control methods using spaces, Area, VAS and schedules.
- Create an area using the area application and understand the different configuration options.
- Create HVAC, analog and binary schedules.
- Set up and modify data logs with advanced configurations.
- Use Tracer TU™ to backup, restore and upgrade firmware for Trane unit controllers.
- Configure alarming for binary and analog points.
- Create custom alarm categories and notification classes.
- Route alarm categories to users.
- Work with Tracer Graphical Editor (TGE) to modify and publish Graphics to the SC+.

## Who Should Attend

Tracer Synchrony Advanced Operation is intended for Tracer SC/SC+ system owners, operators and building engineers who have previously completed the Tracer SC/Tracer Synchrony Operation course and want to go deeper.

## Prerequisites

- Tracer® Synchrony™ Operation

Tracer Synchrony Advanced Operation is an advanced operations course. Students must also be proficient at using a personal computer and familiar with using a web browser.

## Pre-Work

None

# Tracer® Summit™ System Operation

**Length:**  
3.5 days

**Day and time:**  
Day 1-3: 8 a.m.–4:30 p.m.;  
Day 4: 8:00 –11:30 a.m.

**Course Cost:**  
\$1550

**Continuing Education**  
**Units:**  
2.5

**Recommended search:**  
System Operation

Register Now! Trane Education Center

## Course Description

In this course students will learn to perform common and advanced operations with their installed Tracer Summit building management system. This highly interactive basic course includes presentations and hands-on workshops where students practice using the common applications of a Tracer Summit building management system and learn how to monitor and control building mechanical systems.

## Specific Course Objectives

Upon completion of this course, participants should be able to:

- Create and modify schedules/holidays and exceptions.
- Create, modify and plot graphs of trends.
- Respond, route and print alarms.
- Create and modify users and passwords.
- Create and modify basic graphics.
- Monitor chiller plant control.
- Apply knowledge of schedules, area, and variable air systems applications to controls building air systems.

## Who Should Attend

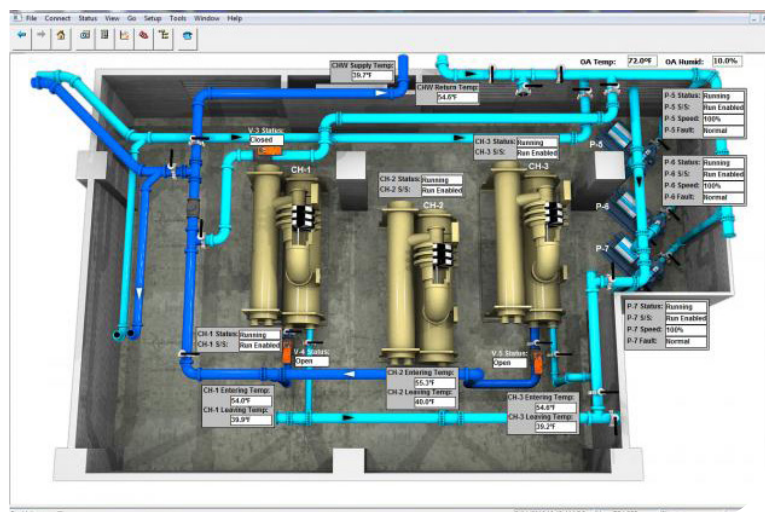
Tracer Summit System Operations is intended for Trane service technicians and Tracer Summit system owners, building engineers and operators.

## Prerequisites

None

## Pre-Work

None





# Online Classes

Trane University™ is pleased to offer online learning and development solutions. These courses are created with the same high quality as you would receive if you attended one of our classroom offerings.

Here are some of the benefits to our online learning:

**Convenient:** Being able to study anywhere and at any time, gives you control of your education. You decide when to complete the training and you can return to it at any time. All you need is a computer and access to the internet.

**Flexible:** Whether you need more time with a particular subject or less time, you can move through the instruction at the pace you need to understand and apply the material.

**Stress-free:** Trane University online classes are easy to access from your individual Trane Education Center account and most have no cost associated with them.

If you need training and you don't see it or we don't offer it, please reach out to us at

[traneuniversity@trane.com](mailto:traneuniversity@trane.com).

The screenshot shows the Trane Education Center Search Catalog interface. At the top, there is a navigation bar with the Trane logo, 'EDUCATION CENTER', and 'Trane External' link. Below this is a secondary navigation bar with 'Home', 'Catalog', 'My Learning', 'Reporting', and 'eCommerce' tabs. A search bar is located on the right side of the navigation bar. The main content area is titled 'Search Catalog' and contains a search form with the following fields: 'Course Name or Keyword' (containing 'controls'), 'Type' (set to 'Self Paced'), 'Search' button, 'Clear' button, and 'Advanced Search' link. Below the search form are filters for 'Category' (set to 'Controls and Automation (Trane-CL1)'), 'Subcategory' (set to 'All'), 'Classes Starting On Or After' (with a calendar icon), 'Location' (set to 'All'), and 'Language' (set to 'All'). There is also a checkbox for 'Check to exclude full classes'. Below the filters, the results are sorted by 'Best Match' and show a total of 8 results. The first five results are listed as follows:

Course Name	Rating	Action
BACnet and MS/TP Network Fundamentals	★★★★☆	Play
Gold Package - Technical Service Training Cost: USD 5700.00		Add To Cart
LonTalk Fundamentals	★★★★★	Play
Platinum Package - Technical Service Training Cost: USD 28500.00		Add To Cart
Introduction to the Tracer SC System		Enroll

## Online Classes

### Introduction to Computer Networking on Tracer® Summit™

**Length:**  
2 hours

**Course Cost:**  
Free

**Register here:**  
[Trane Education Center](#)

**Recommended search:**  
Computer Networking

#### Course Description

This course provides the student the knowledge and skills needed to install a simple building automation system on a customer's existing network.

#### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Set up a simple building automation system on a dedicated network
- Set up a simple building automation system on a shared network

- Set up a building automation system on a shared network comprising two sub-networks
- Using standard network tools, test an Internet protocol connection between network devices

#### Who Should Attend

This course is intended for control system installer-programmers, control system service technicians and project engineers.

### Introduction to LonTalk®

Self-Paced Learning

**Length:**  
2 Hours

**Course Cost:**  
Free

**Register here:**  
[Trane Education Center](#)

**Recommended search:**  
LonTalk

#### Course Description

This course explains what LonTalk is, identifies the existing network management tools Trane uses, and provides a basic understanding of technology and terminology. This course does not include use of third party software to extract the xif or any other concepts not covered in the learning objectives.

#### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Connect LonTalk devices
- Setup the Rover™ service tool
- Configure LonTalk devices
- Manage the LonTalk network
- Verify device communication

- Share information among devices
- Replace LonTalk devices

#### Who Should Attend

This course is intended for controls systems service technicians, mechanical equipment technicians, and controls systems installer-programmers.

Note: This course is pre-work for several other Trane University courses.

## Online Classes

### Introduction to the Tracer® SC System

**Length:**  
1.5 Hours

**Course Cost:**  
Free

**Register here:**  
[Trane Education Center](#)

**Recommended search:**  
Tracer SC

#### Course Description

This course introduces you to the Tracer Synchrony interface and common tasks performed using it.

#### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Understand the Tracer Synchrony role in a building automation system
- Navigate through the user interface
- View equipment and spaces status and data logs
- Override occupancy or set-points

- Determine what set-point will be used by the system
- Access, view and maintain alarms and events
- Change a schedule and add an exception

#### Who Should Attend

This course is intended for Tracer SC/SC+/Synchrony users and operators.

### Tracer® Ensemble™ for Operators

**Length:**  
45 Minutes

**Course Cost:**  
Free

**Register here:**  
[Trane Education Center](#)

**Recommended search:**  
Ensemble Operation

#### Course Description

This course provides a good introduction to many of the features of Tracer Ensemble as you walk through various real-life scenarios commonly encountered by a Tracer Ensemble building operator.

#### Specific Course Objectives

At the end of this elearning course you will be able to explain what Tracer Ensemble is as well as complete the following tasks:

- Set user preferences
- Describe user roles and access
- View status and issue overrides
- Read and edit schedules
- Respond to alarm w/acknowledgment and comments
- Generate and read data logs
- Generate and read reports
- Create tenants and generate invoices

- Describe Critical Control and complete an override requiring an electronic signature

#### Who Should Attend

This course is intended for Tracer Ensemble users and operators or those interested in learning more about this product.



## Online Classes

### Tracer ES™ Operations—Curriculum for Operators

**Length:**

1.5 Hours  
5-15 minutes per module

**Course Cost:**

Free

**Register here:**

[Trane Education Center](#)

**Recommended search:**

ES Operation

#### Course Description

This curriculum will walk the student through common tasks they would perform while using their Tracer ES building management system.

- Create data logs
- Manage overrides

#### Specific Course Objectives

Upon successful completion of this course the learner will be able to:

- Navigate and set user preferences
- Manage alarms
- View status, data logs and schedules

#### Who Should Attend

This course is intended for Tracer ES users and operators.



## Tracer® Synchrony™ Daily Operations

**Length:**

1 Hour

**Course Cost:**

Free

**Register here:**

[Trane Education Center](#)

**Recommended search:**

Daily Op

### Course Description

This video based introduction to Tracer Synchrony daily operations takes a brief look at navigation, alarms, reports, data logs, schedules and overrides.

If you want hands-on workshop based instructor training, please enroll in the Tracer Synchrony Operations course.

### Specific Course Objectives

Upon successful completion of this course the learner will be able to:

- Describe what Tracer Synchrony does
- Log on to Tracer Synchrony
- Navigate through basic user interface tasks
- View the status of equipment and spaces
- Override occupancy or set-points

- Manage alarms and events using Tracer Synchrony
- View schedules and exceptions
- Identify the schedule resultant
- View and export reports
- View, export, and create data logs

### Who Should Attend

This training is intended for those who are new to using Tracer Synchrony, who need to learn how to navigate and complete simple daily tasks.





# Technical Service Training



Trane University™ currently offers 21 instructor-led courses for commercial systems service, maintenance and operation.

## Class Location

Our instructor-led courses are delivered at the Trane Technical Training Center in La Crosse, Wisconsin, and are also offered at our manufacturing plant in Clarksville, TN and Pueblo, CO.

## Choosing Your Classes

View the step-by-step class progression flow charts, which outline learning components for Trane systems: Unitary and Applied.

## Register Online at the Trane Education Center

All course enrollments must be completed online via the Trane Education Center. Each person that wants to attend a course needs to have their own profile.

All registrations received a minimum of 60 days before the start of class will receive our Early-Bird discount of 10%. (Excludes purchases made with one of our Package Programs.)

## Regional Training

Trane University can provide customized regional training. To discuss your needs and our availability, please contact us at [traneuniversity@trane.com](mailto:traneuniversity@trane.com) or 855-803-3563.

## Personal Protective Equipment (PPE)

Instructor-provided PPE is required to be worn while performing lab exercises. If you prefer, please bring personal PPE to class (i.e. prescription safety glasses with side shields, steel-toed boots, etc.) If you are attending CenTraVac® Mechanical Overhaul Service or your course includes a plant tour - steel-toed shoe covers are provided, but personal steel-toed boots will be more comfortable.

## Photo Policy

When taking a tour at one of our plants, Photography requires special authorization. Check photography equipment with our security department when entering the building.

## Continuous Product Improvement

We strive to provide current information on our products. With that in mind, Trane may change course design and/or content without notice.

[Click here](#) for the Technical Service Training schedule or go to our website [www.trane.com/traneuniversity](http://www.trane.com/traneuniversity).

## Course List

To view our class schedule, go to [www.trane.com/traneuniversity](http://www.trane.com/traneuniversity).

Course	Tuition	Early-Bird Rate
Air Conditioning Service	\$1800	\$1620
Airside System Service	\$1800	\$1620
CenTraVac® Electronic Controls	\$1950	\$1755
CenTraVac® Mechanical Overhaul Service	\$3500	\$3150
CenTraVac System Operation and Maintenance	\$1950	\$1755
Chilled Water Systems Service	\$1800	\$1620
Commercial Systems Service	\$1800	\$1620
CVHS/M Chiller Operation	\$2500	\$2250
HVAC Electrical Troubleshooting	\$1800	\$1620
IntelliPak® I & II Rooftops	\$1950	\$1755
IntelliPak® with Symbio™ 800	\$1950	\$1755
Precedent® Voyager™ Rooftops	\$1950	\$1755
ProSpace™ VRF Certified Installation & Start Up	\$495	N/A
ProSpace™ VRF Service and Operation	\$1950	\$1755
RTAA Rotary Chillers	\$1950	\$1755
RTAC Rotary Chillers	\$1950	\$1755
RTAE/ACRA Rotary Chillers	\$1950	\$1755
RTAF Rotary Chillers	\$1950	\$1755
RTHD Rotary Chillers	\$1950	\$1755
RTWD Rotary Chillers	\$1950	\$1755
Scroll Chiller Service and Troubleshooting	\$1950	\$1755
Single - Stage Absorption Chillers	\$2500	\$2250

### e-Learning Courses

Intellipak Human Interface Navigation and Status Menu


ReliaTel Zone Sensor Testing

# COURSE PROGRESSION

## ALL COURSES

**Legend**





 = Instructor Led Training

 = eLearning / Self-Paced Material

**e-Learning**

	
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**Recommended years of experience**

<i>3 months–1.5 years</i>						
<i>1.5–3 years</i>						
<i>3–5 years</i>						
<i>3–7 years</i>						
<i>5+ years</i>						
						



# COURSE PROGRESSION

## UNITARY PATH

**Legend**









 = Instructor Led Training

 = eLearning / Self-Paced Material

**eLearning**

 <p>IntelliPak<sup>®</sup> Human Interface Navigation &amp; Status</p>	 <p>ReliaTel<sup>®</sup> Zone Sensor Testing</p>
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**Recommended years of experience**

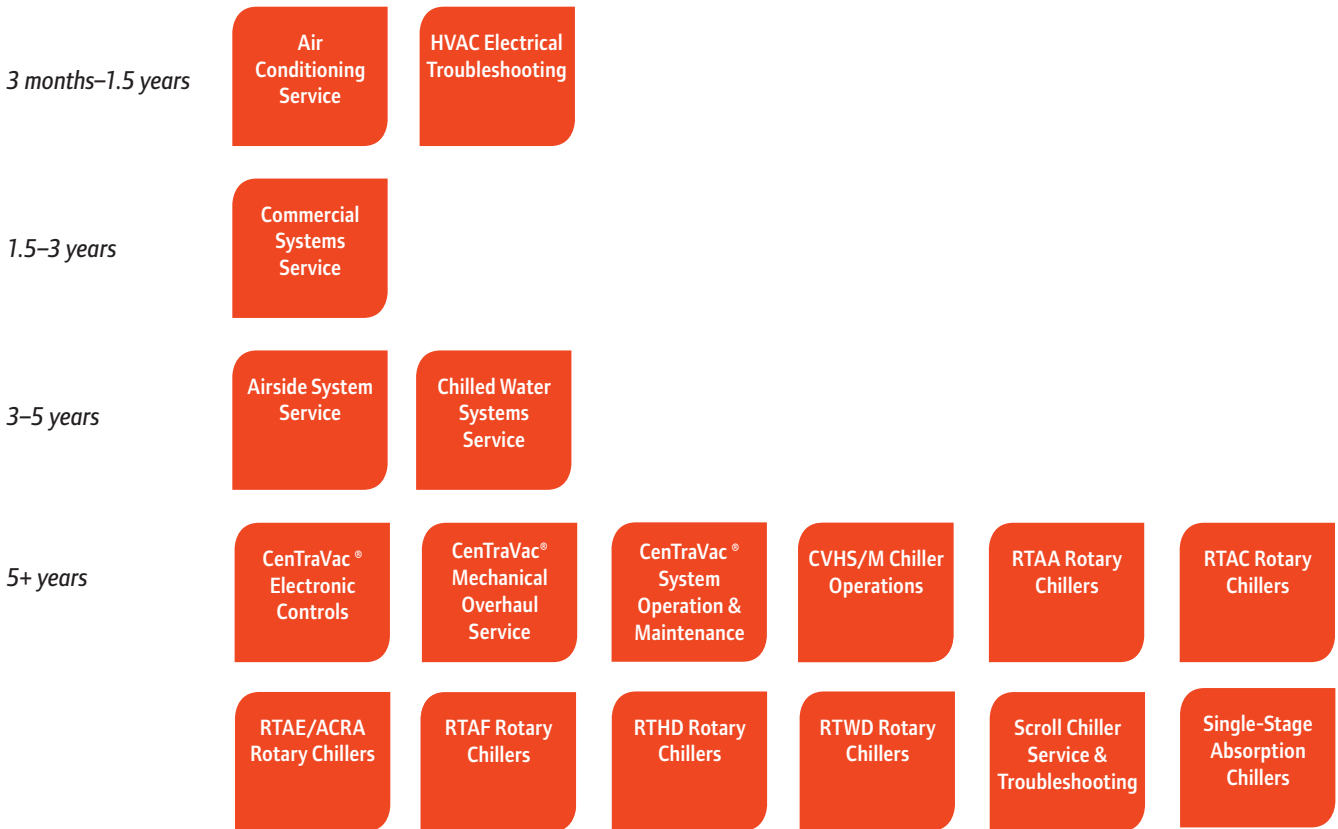
<p><i>3 months–1.5 years</i></p>	 <p>Air Conditioning Service</p>	 <p>HVAC Electrical Troubleshooting</p>	
<p><i>1.5–3 years</i></p>	 <p>Commercial Systems Service</p>		
<p><i>3–5 years</i></p>	 <p>Airside System Service</p>	 <p>Chilled Water Systems Service</p>	 <p>Precedent<sup>®</sup> Voyager<sup>®</sup> Rooftops</p>
<p><i>3–7 years</i></p>	 <p>IntelliPak<sup>®</sup> I &amp; II Rooftops</p>	 <p>IntelliPak<sup>®</sup> with Symbio™ 800</p>	

# COURSE PROGRESSION

## APPLIED PATH

**Legend**  
 = Instructor Led Training

### Recommended years of experience



## Air Conditioning Service

**Length:**  
4.5 days

**Day and time:**  
Mon–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$1800

**Continuing Education**  
**Units:**  
3.2

**Recommended search:**  
Air Conditioning Service

Register Now! Trane Education Center

### Course Description

This is a comprehensive, entry-level air conditioning service course. It concentrates on essential refrigeration knowledge that all HVAC technicians must eventually possess in order to perform competent HVAC service work. After attending, technicians should have acquired knowledge in tool usage, basic system theory, metering devices, system problem identification, superheat, sub-cooling, piping, evacuation and recharging techniques.

This course is 45–50 percent lab intensive. Packaged rooftop units, 2 to 5 tons, are used in the lab sessions. A separate course is available to help develop electrical troubleshooting skills.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Draw and explain basic system theory.
- Identify the four basic parts of the refrigeration system and how they work.
- Use refrigeration instruments.
- Perform system logging.
- Perform system evacuation and charging.
- Diagnose and correct start up and service problems related to refrigeration systems.
- Measure and adjust superheat and sub-cooling using classroom methods.
- Demonstrate refrigerant recovery procedures.

### Lab Safety

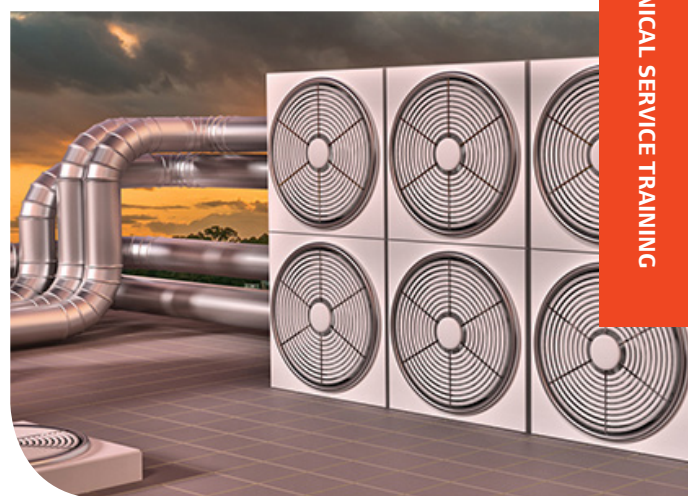
Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is well suited for entry-level air conditioning and/or HVAC maintenance mechanics, service technicians and industrial or facility maintenance technicians. An electrician with new responsibilities in air conditioning maintenance and service will also benefit.

### Qualifications

The student should have some basic mechanical and electrical background in addition to an aptitude and interest for work with HVAC equipment.



## Airside System Service

**Length:**  
4.5 days

**Day and time:**  
Mon–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$1800

**Continuing Education**  
**Units:**  
3.2

**Recommended search:**  
Airside System

Register Now! Trane Education Center

### Course Description

This course covers the operation and setup of a commercial VAV system from the standpoint of the service technician. Shutoff VAV, Bypass VAV and Single Zone VAV will be discussed in the class, although Shutoff VAV (traditional VAV) will be the primary focus. The concepts discussed will apply to new system startup as well as existing buildings. The course also discusses the different fan types used in commercial HVAC units.

The lab exercises are designed around several working VAV systems in our La Crosse, Wisconsin, training lab. This includes IntelliPak® Commercial Self-Contained (CSC) and rooftop units (RTU) with various types of VariTrane® VAV boxes. During the lab exercises, students will use the various tools and software needed to setup and commission (or re-commission) a VAV system. Attendees will learn to recognize important parameters within building plans in order to commission the building as the design engineer intended. The plans used will include the equipment schedule, sequence of operation, airflow requirements, and ventilation.

The course includes systems used in all geographic regions.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Verify system airflow using multiple methods.
- Interpret fan curve data from the various fan types such as forward curve, airfoil, and direct drive plenum.
- Set up and verify proper system air with the fan types used in our lab.

- Describe the capabilities and the limitations of the building control system from a service technician standpoint.
- Using a Rover service tool, analyze air delivery on multiple VAV systems.
- Describe the difference between Single Zone VAV systems and Multiple Zone VAV systems.
- Go through the procedure required to establish the supply pressure setpoint on a VAV system.

### Lab Safety

Student participation in any hands-on portion of this course will include ladder safety and use of proper fall protection. It is expected the student will adhere to all other safety requirements as they arise.

### Who Should Attend

This course is ideal for advanced service, controls, and maintenance technicians, as well as service contractors. Existing Building Systems personnel and others involved with system commissioning or with ensuring that an HVAC system is operating correctly and efficiently would benefit from this course.

### Qualifications

Participants attending this course must have strong HVAC skills or an understanding of engineered building systems. They should also understand the importance of compliance with today's energy efficiency requirements.



## CenTraVac® Electronic Controls

**Length:**  
3 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
2.1

**Recommended search:**  
Electronic Control

Register Now! Trane Education Center

### Course Description

This course is intended to update experienced service technicians on Trane CenTraVac chiller control technology. Detailed coverage includes electronic capacity modulation controls found on all Trane centrifugal chillers manufactured between 2001 and the present. Earlier-model control systems are not discussed in depth. This course covers Tracer™ CH530 and Tracer AdaptiView™ control system in use at this time.

This is a controls technology class only. Mechanical service course attendance is required for complete CenTraVac Chiller service coverage.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Operate all the controls covered by this course, including systems interface.
- Describe operating logic for Tracer CH530 and Tracer AdaptiView control platforms.
- Use control information for routine operational troubleshooting.
- Use menu-driven diagnostics.
- Functionally diagnose various components of an operating control panel.
- Perform detailed trouble analysis on controls and determine necessary field repairs or replacement action.
- Determine potential electrical or electronic control faults through recommended isolation checkout procedures.

### Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is for technicians who regularly work with Trane CenTraVac CVHE/F/G/L and duplex chillers.

### Qualifications

Technicians must be comfortable with electrical controls, electrical meters such as digital volt-ohmmeters and understand refrigeration and centrifugal chiller control requirements. It is helpful if technicians have experience with other HVAC electronic control systems or have attended Trane University's HVAC Electrical Troubleshooting course. Familiarity with basic computing skills, file management and internet downloading procedures is also desirable.



# CenTraVac® Mechanical Overhaul Service

**Length:**  
3.5 days

**Day and time:**  
Tues–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$3500

**Continuing Education**  
**Units:**  
2.5

**Recommended search:**  
Mechanical

Register Now! Trane Education Center

## Course Description

This course will broaden any technician's level of service and overhaul expertise. It will help them gain confidence and experience in maintenance, repair and major overhaul of water-cooled CenTraVac chillers. The course provides learning situations not otherwise available or that may take months or even years of on-the-job exposure to encounter. This course lays a substantial foundation for the technician's continued professional growth and provides familiarity with other centrifugal chiller products. This is a mechanical service course only. Controls course attendance is required for complete CenTraVac chiller service coverage.

## Specific Course Objectives

Upon completion of this course, participants should be able to:

- Identify various Trane centrifugal chillers and variations in mechanical components.
- Be familiar with documented factory service information available to support Trane centrifugal chillers.
- Properly maintain and repair chillers with varying lubrication and cooling system designs.
- Properly overhaul a CVHE/F/G/L CenTraVac chiller compressor and motor, using factory-recommended procedures.
- Properly inspect compressor and motor components for compliance to factory specifications.

## Lab Safety

Students are required to wear steel-tipped footwear, safety glasses and gloves to participate in mechanical lab service procedures. Appropriate work clothes should be worn to disassemble a chiller.

## Who Should Attend

This course is designed for technicians or mechanics who have experience in other HVAC chiller products and are beginning to work with centrifugal products. The class is useful for experienced centrifugal service technicians who have no formal centrifugal overhaul training or experience with Trane CenTraVac chillers.

## Qualifications

In order to attend this course, a student must meet the following qualifications:

- Previous heavy refrigeration service experience
- Skills with close tolerance measuring instruments
- Experience with shop rigging of components heavier than 150 lbs

## Plant Tour Requirement

Leather shoes which give good protection and long trousers are required. Neither sandals nor cloth-top shoes are permitted in manufacturing areas.



## CenTraVac® System Operation and Maintenance

<b>Length:</b> 3.5 days	<b>Day and time:</b> Tue–Thu: 8 am–4:30 pm Fri: 8–11 am	<b>Course Cost:</b> \$1950	<b>Continuing Education</b> <b>Units:</b> 2.5	<b>Recommended search:</b> CenTraVac System
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Register Now! Trane Education Center

### Course Description

This course will familiarize owner maintenance supervisors and technicians with Trane CenTraVac CVHE/F/G/L centrifugal chiller operation and maintenance requirements. It will assist them understanding chilled water systems and load-based chiller dynamics. The course will help technicians troubleshoot and will help chiller owners decide if work can be done in-house or not. Technicians can particularly benefit from coverage on diagnosing and maintaining machine design performance, and learn what can occur if operating outside of these parameters. Students will have the opportunity to observe the manufacturing and the assembly of key components in a factory tour. This course relies primarily on classroom lecture and does not include hands-on maintenance training.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Describe Trane centrifugal chiller operation and chilled water system theory.
- Observe chiller construction process.
- Use operating logs to recognize normal operation and how abnormal influences affect chiller operation and performance.
- Recognize problems that reduce efficiency and damage equipment.
- Identify system components and their role in the system.
- Identify chilled water piping designs.

### Who Should Attend

Our target is individuals responsible for the operation and preventative maintenance of Trane CenTraVac chillers (CVHE/F/G/L). This course will benefit technicians, supervisors or engineers who make planning decisions to support centrifugal chiller maintenance.

### Qualifications

Students will benefit from this course in direct relation to their background knowledge of refrigeration, electrical, mechanical, and basic heat transfer systems. This course addresses the needs of individuals from widely varied backgrounds and does not require in-depth HVAC knowledge.

### Plant Tour Requirement

Leather shoes which give good protection and long trousers are required. Neither sandals nor cloth-top shoes are permitted in manufacturing areas.



TECHNICAL SERVICE TRAINING

# Chilled Water Systems Service

**Length:**  
3.5 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$1800

**Continuing Education**  
**Units:**  
2.5

**Recommended search:**  
Chilled Water

Register Now! Trane Education Center

## Course Description

This course is intended to provide attendees with a "systems" approach to maintaining and diagnosing problems involving chilled water piping systems from a service perspective. It will show technicians and supervisors how Trane utilizes water flows to obtain efficient chiller operation. The course will also discuss water system conditions that can be detrimental to efficient operation and possibly damaging to system components. Students will take flow measurements in a laboratory setting, using recommended tools and techniques to determine chilled water system performance. Chilled water system types such as decoupled loop, variable-primary flow and others will be discussed.

## Specific Course Objectives

Upon completion of this course, participants should be able to:

- Demonstrate an understanding of the water principles as applied to a chilled water system.
- Calculate the loop size in a chilled water system in order to understand and prevent short loop issues.
- Measure and verify water flow on a simple chilled water system using a variable frequency drive.
- Calculate water flow in a system using various methods.
- Given the necessary tools, service literature and personal protective equipment (PPE); properly log multiple chillers in our hands-on lab.
- Using operating pumps, calculate flow and then plot changes of flow using a balancing valve.
- Calculate unit capacity on a chiller by using proper tools and methods.

## Lab Safety

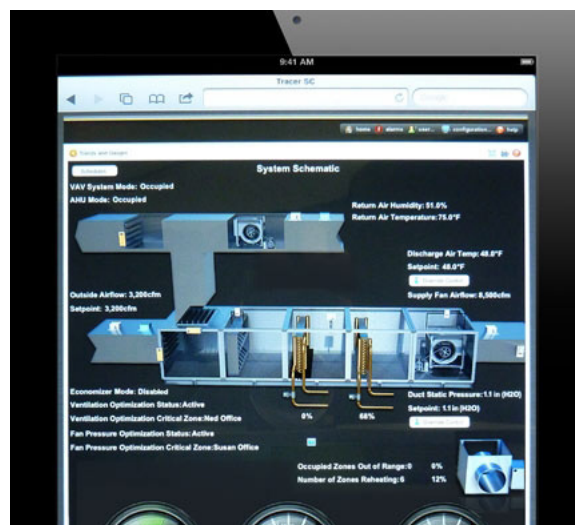
Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

## Who Should Attend

This course is intended for plant engineers, maintenance supervisors, operating engineers, HVAC service technicians, and maintenance technicians who need an improved understanding of air and chilled water system control and maintenance requirements and techniques.

## Qualifications

This course addresses the needs of persons from widely varied backgrounds and does not require in-depth HVAC knowledge. Students should be ready, however, to assimilate HVAC "systems" thinking.





## Commercial Systems Service

**Length:**  
4.5 days

**Day and time:**  
Mon–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$1800

**Continuing Education**  
**Units:**  
3.2

**Recommended search:**  
Commercial Systems

Register Now! Trane Education Center

### Course Description

This course exposes the student to commercial unit and systems operation, set-up, and troubleshooting. This course is delivered through a combination of classroom activities, interactive workshops, and hands on lab exercises using Trane commercial unitary and applied equipment. The course emphasizes a systematic approach to commercial HVAC system service and troubleshooting.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Interpret temperature and pressure readings on an operating refrigeration system.
- Troubleshoot common refrigeration system issues.
- Measure airflow using appropriate airflow instruments.
- Apply airflow fundamentals to unit operation.
- Perform combustion analysis and determine combustion efficiency.
- Compare air mixtures using the psychrometric chart.
- Set up an economizer using appropriate mixed air formulas.
- Describe building systems used in commercial HVAC applications.

### Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is ideal for dealer, contractor or owner maintenance technicians progressing from residential to light commercial service who have experience in HVAC.

### Prerequisites

We recommend attendees meet one of the following:

- Completion of a vocational or technical program in air conditioning/refrigeration
- At least 1.5 years practical experience
- Completion of one of the following Trane University courses
  - Air Conditioning Service
  - HVAC Electrical Troubleshooting

### Qualifications

Students must also have a working knowledge of the basic theory needed to diagnose the refrigeration cycle and an understanding of the following tools and subjects:

- Refrigeration Manifold Gauge Set
- Volt/Ohmmeter
- Electronic Temperature Meter
- Clamp-on ammeter
- Temperature/Pressure Relationships
- Metering Devices
- Basic trade math

## CVHS/M Chiller Operation

**Length:**  
3.5 days

**Day and time:**  
Tues–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$2500

**Continuing Education**  
**Units:**  
2.5

**Recommended search:**  
CVHS

Register Now! Trane Education Center

### Course Description

This course is for the experienced centrifugal service technician or facility personnel who want to familiarize themselves more with Trane's CVHS/M Centrifugal Chiller operation and maintenance requirements. The course provides insight into chiller construction, use of chiller control platform and overall sequence of operation. In addition, proper unit disassembly and motor replacement will be performed in a lab environment along with the factory mounted adaptive frequency drive.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Discuss the operating characteristics of the CVHS/M Chiller.
- Operate the Tracer AdaptiView™/ TU control platform applied to this chiller.
- Identify CVHS/M chiller components and discuss their role in the system.
- Perform proper disassembly of the unit and motor replacement.
- Demonstrate an understanding of the AFDN/AFD3 operation and maintenance guidelines.
- Discuss the operational characteristics of the Earthwise™ purge as it applies to the CVHS/M chiller.

### Lab Safety

Students are required to wear steel-tipped footwear, safety glasses and gloves to participate in mechanical lab service procedures. Appropriate work clothes should be worn to disassemble a chiller.

### Who Should Attend

This course is designed for technicians and mechanics who have experience with other HVAC chiller products and are experienced in working with other Trane centrifugal products.

### Prerequisites

We highly recommend attendees take Trane University's CenTraVac System Operation and Maintenance course prior to attending or have two or more years of service exposure to centrifugal equipment.

### Qualifications

In order to attend this course, a student must meet the following qualifications:

- Previous heavy refrigeration service experience
- Skills with close tolerance measuring instruments
- Experience with shop rigging of components heavier than 150 lbs

### Plant Tour Requirement

Leather shoes which give good protection and long trousers are required for plant tours. Neither sandals nor cloth-top shoes are permitted in manufacturing areas.



## HVAC Electrical Troubleshooting

**Length:**

4.5 days

**Day and time:**

Mon–Thu: 8 am–4:30 pm

Fri: 8–11 am

**Course Cost:**

\$1800

**Continuing Education**
**Units:**

3.2

**Recommended search:**

Electrical

Register Now! Trane Education Center

### Course Description

This course is intended to improve a technician’s ability and confidence when troubleshooting electrical problems on commercial HVAC equipment. The course will broaden the technician’s capabilities to troubleshoot controls and other electrical circuits by teaching an understanding of practical electrical theory as applied to the products and components found in HVAC. The information and skills learned should greatly decrease service diagnosis time and take the guesswork out of isolating problems found in single and three-phase air conditioning and heating products. This course makes extensive use of lab hands-on methods.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Define and use fundamental electrical terms, laws and formulas for understanding what electricity is and what it does.
- Discuss the basics of series, parallel and series-parallel circuits.
- Identify the proper usage of meters required to troubleshoot electricity.
- Increase confidence and ability in reading complex wiring diagrams.
- Discuss the control logic and sequence of unit operation.
- Discuss safeties and component operation in Trane equipment.

- Recognize characteristics of single- and three-phase motors and their associated control components.
- Discuss the principal maintenance requirements for longer operating life of electrical components.
- Practice systematic methods of electrical troubleshooting for all major HVAC products.

### Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is ideal for HVAC installers, maintenance mechanics, industrial electrical technicians and apprentice level service technicians who have HVAC servicing responsibility and need a thorough understanding of electrical troubleshooting skills.

### Qualifications

Students must have an understanding of the refrigeration cycle and its components. The student should have some basic mechanical and electrical background in addition to an aptitude and interest for work with HVAC equipment.

# IntelliPak® I & II Rooftop Units

**Length:**  
4.5 days

**Day and time:**  
Mon–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
3.2

**Recommended search:**  
IntelliPak

Register Now! Trane Education Center

## Course Description

The course focus's on operation, start-up and maintenance of 20 to 130 ton IntelliPak I and 90 to 162 ton IntelliPak II rooftop units. Proper service techniques will be discussed to include correct maintenance procedures and intervals. Factory recommended installation and start-up procedures will also be discussed. Students will also learn the service and checkout procedures for the mechanical cooling and heating systems related to Intellipak.

## Specific Course Objectives

Upon completion of this course, participants should be able to:

- Using IntelliPak terminology, discuss rooftop unit functions.
- Demonstrate circuit board level troubleshooting by using an Intellipak wiring diagram.
- Practice configuration and setup of a unit using an Intellipak Human Interface.
- Demonstrate the proper setup procedure for cooling and heating.
- Discuss and demonstrate pressure transducer troubleshooting.
- Describe the basic IntelliPak sequences of operation.
- Describe scroll compressor construction and operation.
- Diagnose and troubleshoot IntelliPak binary and analog inputs and outputs.
- Test and verify modulating dehumidification.
- Demonstrate an understanding of CV, SZVAV, and VAV air flow properties.

## Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

## Who Should Attend

This course is intended for rooftop service technicians who have a good understanding of both constant volume and variable air volume rooftop units and systems and need additional knowledge regarding startup and maintenance procedures of Trane IntelliPak rooftop units.

## Qualifications

Students must have a good understanding of both the refrigeration and combustion cycles and understand airflow dynamics. Students should also be able to follow electrical ladder diagram logic and be familiar with commercial unitary equipment sequence of operation.

## Plant Tour Requirement

Leather shoes which give good protection and long trousers are required for plant tours. Neither sandals nor cloth-top shoes are permitted in manufacturing areas.





## IntelliPak® with Symbio™ 800

**Length:**  
3.5 days

**Day and time:**  
Tues–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
2.5

**Recommended search:**  
Symbio

Register Now! [Trane-owned](#) [Independent Office](#)

### Course description

The IntelliPak with Symbio 800 program provides the technical knowledge and skills required to start-up, service and troubleshoot IntelliPak units with Symbio 800 controls. The course is intended to familiarize technicians with the new IntelliPak with Symbio 800 controls rooftop unit. This course will cover new product information with an emphasis on the Symbio 800 control platform.

This course is intended for new IntelliPak units with Symbio 800 controls. This course does not cover legacy IntelliPak topics.

### Specific course objectives

Upon completion of this course, participants should be able to:

- Explain sequence of operations for Constant Volume (CV), Single Zone VAV (SZVAV) and Multiple Zone VAV (MZVAV) units.
- Perform LLID binding using Tracer TU and TD7 display.
- Interpret electrical wiring schematics for Symbio 800 controls.
- Verify and adjust units' airflow using product literature.
- Identify system components that make up the Symbio 800 control platform.
- Demonstrate unit configuration using model number, literature and Tracer TU software.
- Describe gas fired burner operation for staged and modulating heat.

### Lab safety

Instructor provided PPE is required for the hands-on workshops of this course. The proper clothing should also be worn: long pants, long sleeves of 100% cotton and closed toes shoes.

### Who should attend

This course is intended for rooftop service technicians who have a good understanding of both constant volume and variable air volume rooftop units and systems and need additional knowledge regarding startup and maintenance procedures of Trane IntelliPak rooftop units with Symbio 800 controls.

### Qualifications

Students must have a good understanding of both the refrigeration and combustion cycles. Students should be able to follow electrical ladder diagram logic and be familiar with commercial rooftop sequence of operation. Basic PC skills and use of software is a plus but not required.

## Precedent® Voyager™ Rooftops (3–25 Ton Units)

**Length:**  
3.5 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
2.5

**Recommended search:**  
Precedent OR Voyager

Register Now! Trane Education Center

### Course Description

This course is designed to provide commercial service technicians in-depth comprehensive coverage of the Trane Precedent and Voyager rooftops with ReliaTel™ controls. Students will be exposed in detail to the mechanical, electrical and control systems of these units and will become knowledgeable in the start-up, maintenance and troubleshooting requirements of these products. This course will also cover updates for each of these units including fans, compressors and refrigerant.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Explain CV, SZVAV and MZVAV unit operation and proper airflow adjustment.
- Demonstrate the ability to read and follow a ReliaTel® schematic.
- Demonstrate proper gas heating checkout and troubleshooting.
- Demonstrate the ability to test and troubleshoot Zone Sensor modules.
- Apply proper techniques to service, diagnose and troubleshoot Precedent and Voyager rooftops with ReliaTel controls.
- Explain the operation of the ReliaTel economizer with CO2 and DCV control.

### Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is intended for commercial rooftop service technicians who have a good understanding of both constant volume and variable air volume rooftops and systems and who need extended knowledge of the Trane Precedent and Voyager rooftops.

### Qualifications

Students should have a good understanding of both the refrigeration and combustion cycles and understand airflow dynamics. Students should also be able to follow electrical ladder diagram logic and be familiar with commercial unitary equipment sequence of operation.

### Plant Tour Requirement

Classes held in Clarksville TN: Leather shoes which give good protection and long trousers are required for plant tours. Neither sandals nor cloth-top shoes are permitted in manufacturing areas.



## ProSpace™ VRF Certified Installation

**Length:**

2 days

**Day and time:**

Day 1-2: 8 am–4:30 pm

**Course Cost:**

\$495

**Continuing Education**
**Units:**

1.4

**Recommended search:**

VRF Install

Register Now! Trane Education Center

### Course Description

This training will provide participants with an in-depth understanding of the installation, start-up and commissioning requirements for Trane’s ProSpace Variable Refrigerant Flow (VRF) systems. Piping, wiring, and specific installation requirements are discussed. Participants will also identify major system components including the Outdoor Unit (ODU), Indoor Unit (IDU), and Mode Control Unit (MCU) and how they interrelate. Use of the Technician Utility Tool (TUT) in the start-up and commissioning process is also presented.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Install a Trane VRF system

### Who Should Attend

This class is intended for Trane service technicians and VRF Installing contractors.

### Qualifications

Prior to enrolling in this course, it is recommended that the student have occupational training and/or experience in the installation of HVAC systems and equipment.

Note: This course covers Trane’s ProSpace VRF systems only.



# ProSpace™ VRF Service and Operation

**Length:**  
3 days

**Day and time:**  
Day 1-3: 8 am–4:30 pm

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
2.1

**Recommended search:**  
VRF Service

Register Now! Trane Education Center

## Course Description

The Trane ProSpace VRF Service and Operation course is designed to provide the service technician with the knowledge and skills to properly service, troubleshoot and maintain a ProSpace VRF system. Trane's ProSpace VRF training will be delivered through a combination of classroom and hands on activities.

## Specific Course Objectives

Upon Completion of this course attendees should be able to:

- Explain the features and functions of the Trane ProSpace VRF system.
- Identify the proper installation procedures for the Trane ProSpace VRF system.
- Describe the Trane ProSpace VRF system sequence of operation.
- Perform proper start-up and checkout of the Trane ProSpace VRF system.
- Perform proper maintenance on the Trane ProSpace VRF system.
- Utilize the VRF Technician Utilities Tool for start-up, commissioning and troubleshooting.

## Who Should Attend

This class is intended for VRF Installing contractors, as well as contractor and Trane service technicians.

## Qualifications

Prior to enrolling in this course, it is recommended that the student have a basic knowledge of HVAC systems. It is also recommended that participants complete the Instructor led Trane ProSpace VRF Installation & Start-up course.

Note: This course covers Trane's ProSpace VRF systems only.





## RTAA Rotary Chillers

**Length:**  
3 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
2.1

**Recommended search:**  
RTAA

Register Now! Trane Education Center

### Course Description

This course provides training for service and facility maintenance technicians who need an in-depth understanding of the controls, maintenance and troubleshooting of Trane’s RTAA and RTWA helical-rotary chillers. The course provides insights into compressor design, unit operation, unit installation, start-up requirements, unit performance and service diagnosis. Specific service steps are covered for refrigerant handling and component service.

This course is primarily classroom oriented.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Describe the theory of helical rotary chiller operation.
- Discuss chiller components and the interrelationships.
- Describe the capabilities of individual chiller designs.
- Read unit wiring and interconnecting diagrams.
- Describe control start sequence and operating logic.
- Discuss system control methods available for building automation.
- Use control information for routine operational troubleshooting.
- Complete routine maintenance requirements for helical-rotary chillers.
- Discuss the limits to field service methods inherent to helical compressor designs.
- Apply proper service techniques with refrigerant handling and component repairs.

### Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is intended for contractors and in-plant HVAC service technicians who will work regularly with Trane RTAA air-cooled and RTWA water-cooled chillers.

### Qualifications

Technicians must have solid electrical skills equal to Trane University’s HVAC Electrical Troubleshooting course standards. Service experience with other types of liquid chillers and/or Trane’s UCP1 and UCP2™ chiller control system would be helpful, but are not required.

## RTAC Rotary Chillers

**Length:**  
3 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
2.1

**Recommended search:**  
RTAC

Register Now! Trane Education Center

### Course Description

This course covers operation, diagnostics, and maintenance for Trane’s RTAC rotary chillers, the Tracer™ CH530 micro electronic control system and covers refrigeration system components. The operational characteristics of the GP2 compressor, Falling Film evaporator, and E-coil design condenser are given emphasis. Additional coverage provided for chiller operation using ANSI® Trane wiring diagrams with emphasis on understanding the Adaptive control system logic. Tracer CH530 control architecture and components are discussed. This course is primarily classroom oriented.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Discuss the operating characteristics of 140 to 500 ton Trane RTAC rotary chiller machines.
- Explain RTAC chiller construction and the physical relationship of components.
- Describe GP2 compressor construction, operation and checkout.
- Describe Falling Film evaporator construction and operation.
- Discuss the Tracer CH530 control architecture and operating logic.
- Explain the field maintenance and limitations of the Trane RTAC rotary chiller.

### Lab Safety

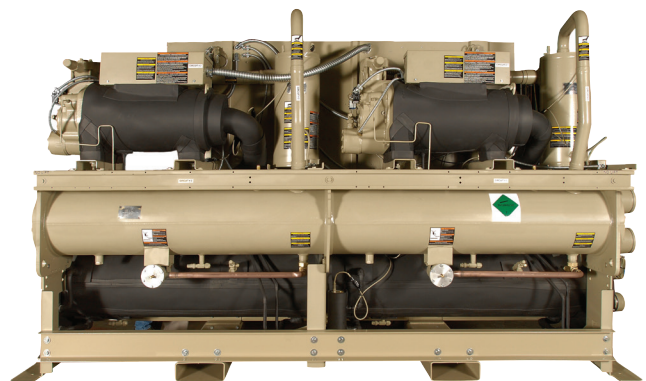
Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is intended for owners, contractors and in-plant HVAC service technicians who will work regularly with Trane RTAC rotary chillers.

### Qualifications

Technicians must have solid electrical skills equal to Trane University’s HVAC Electrical Troubleshooting course standards. Service experience with other types of liquid chillers and/or the Trane UCP1 and UCP2™ chiller control system would be helpful, but are not required. Familiarity with basic computing skills, file management and internet downloading procedures is also desirable.



## RTAE/ACRA Rotary Chillers

**Length:**  
3 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
2.1

**Recommended search:**  
RTAE

Register Now! Trane Education Center

### Course Description

This course covers the operation of Trane RTAE stealth rotary chillers. Coverage includes chiller refrigeration system components, construction and operation. Emphasis will be placed on the operational characteristics of the GP4 compressor, CHIL evaporator, Transverse condenser and AFD3 cooling circuit. Additional coverage will be provided on the Trane RTAE UC800 control platform with TD7 AdaptiView™ display, chiller logging and maintenance requirements. This course is primarily classroom oriented.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Describe the operating characteristics of a RTAE rotary chiller.
- Identify Trane RTAE rotary chiller construction and the physical relationship of components.
- Describe GP4 compressor operation.
- Describe the RTAE CHIL evaporator construction and operation.
- Discuss the Trane RTAE UC800 control platform and operating logic.
- Perform the field service, maintenance of Trane RTAE rotary chillers.
- Identify how the AFD3 Drive works as it relates to Trane RTAE rotary chillers.

### Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is intended for owners, contractors and in-plant HVAC service technicians who will work regularly with Trane RTAE rotary chillers.

### Qualifications

The student must have solid electrical skills equal to Trane University's HVAC Electrical Troubleshooting course standards. Service experience with other types of liquid chillers and/or the Tracer™ CH530 chiller control system would be helpful but are not required.

## RTAF Rotary Chillers

**Length:**

3 days\*

**Day and time:**

Tue–Thu: 8 am–4:30 pm

\*Fri: 8–11 am

**Course Cost:**

\$1950

**Continuing Education****Units:**

2.1

**Recommended search:**

RTAF

Register Now! Trane Education Center

### Course Description

This course is designed to teach service technicians the components of Trane’s RTAF Sintesis unit and how to maintain it. Identification and troubleshooting using diagnostics is emphasized. Compressor and unit control operation are also covered. After completion, the technician should be able to verify proper unit operation and performance. This course is primarily classroom oriented.

\*Classes held in Pueblo, CO are 3.5 days and include a Plant Tour.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Identify the tonnages, components and physical differences of the compressors in a RTAF Sintesis chiller.
- Explain the operation of the capacity control of the Helical Rotary compressor.
- Explain the diagnostic, troubleshooting and repair procedures on the capacity control for the Helical Rotary compressor.
- Identify the components, oil management process and maintenance of a RTAF Sintesis chiller.
- Explain the unit control operation of the RTAF Sintesis chiller.
- Explain the components, operation and troubleshooting of a RTAF Sintesis chiller Microchannel condenser.
- Identify the EEV and evaporator components in a RTAF Sintesis chiller.

### Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is intended for owners, contractors and in-plant HVAC service technicians who will work regularly with Trane RTAF rotary chillers.

### Qualifications

The student must have solid electrical skills equal to Trane University's HVAC Electrical Troubleshooting course standards. Service experience with other types of liquid chillers and/or the Tracer™ CH530 chiller control system would be helpful but are not required.

### Plant Tour Requirement\*

Leather shoes which give good protection and long trousers are required for plant tours. Neither sandals nor cloth-top shoes are permitted in manufacturing areas.



## RTHD Rotary Chillers

**Length:**  
3 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm

**Course Cost:**  
\$1950

**Continuing Education  
Units:**  
2.1

**Recommended search:**  
RTHD

Register Now! Trane Education Center

### Course Description

This course covers the operation and maintenance of Trane's RTHD helical rotary chiller with Tracer™ CH530 and UC800 control platforms. Coverage includes discussion on the CH530 and UC800 micro electronic controls in addition to refrigeration system components and operational logging. Emphasis will be placed on chiller sequence of operation, construction of refrigeration system components and the chiller's Adaptive Control™ system logic. This course is primarily classroom oriented.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Describe the operating characteristics of Trane RTHD helical rotary chillers.
- Explain the differences between Tracer CH530 and UC800 control platforms.
- Discuss the service, maintenance and limitations of Trane's RTHD rotary chillers.
- Describe Trane's RTHD rotary chiller compressor operation with and without TR200™ VFD.

### Who Should Attend

This course is intended for contractor and in-plant HVAC service technicians who will work regularly with Trane Series R chillers.

### Qualifications

The technician must have solid electrical skills equal to Trane University's HVAC Electrical Troubleshooting course standards. Service experience with other types of liquid chillers and/or Trane's UCP1 and UCP2™ is helpful but not required. Familiarity with basic computing skills, file management and internet downloading procedures is also desirable.





## RTWD Rotary Chillers

**Length:**  
3 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm

**Course Cost:**  
\$1950

**Continuing Education  
Units:**  
2.1

**Recommended search:**  
RTWD

Register Now! Trane Education Center

### Course Description

This course provides an in-depth understanding of the controls, maintenance and troubleshooting of Trane's RTWD helical rotary chiller with Tracer™ CH530. The course also provides insight into compressor design, unit operation, unit performance and service diagnosis. This course is primarily classroom oriented.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

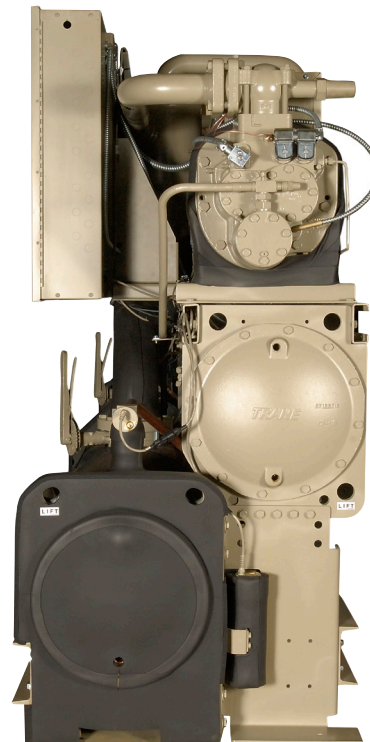
- Describe the theory of operation of Trane's RTWD.
- Discuss the RTWD platform service procedures, maintenance and troubleshooting.
- Discuss the CH530 control system.
- Explain how the GP2 compressor operates.
- Describe gas pump operation.
- Discuss the problems associated with oil loss.
- Describe oil return.

### Who Should Attend

This course is intended for contractor and in-plant HVAC service technicians who will work regularly with Trane Series R chillers.

### Qualifications

The student must have solid electrical skills equal to Trane University's HVAC Electrical Troubleshooting course standards. Service experience with other types of liquid chillers and/or Trane's UCP1™ and UCP2™ is helpful but not required. Familiarity with basic computing skills, file management and internet downloading procedures is also desirable.



## Scroll Chiller Service & Troubleshooting

**Length:**  
3.5 days

**Day and time:**  
Tue–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$1950

**Continuing Education**  
**Units:**  
2.5

**Recommended search:**  
Scroll Chiller

Register Now! Trane Education Center

### Course Description

This service level course covers the operation, diagnosis and troubleshooting for Trane's CGAM liquid chiller 20 to 130 tons and CGWF scroll chiller 20 to 60 tons with additional detailed coverage of R-22 and R-410a refrigeration system components, chiller logging and maintenance procedures.

Trane scroll CSHA, CHSD and CSHN compressors construction, operation, maintenance requirements and troubleshooting will also be discussed. Factory recommended installation, start up procedures and chiller logging will be discussed in detail.

This course involves extensive hands-on training.

### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Describe chiller construction and the relationship of components.
- Given the necessary tools, service literature and personal protective equipment (PPE) properly log a scroll chiller in our hands-on lab.
- Describe the compressor protection processes used with Tracer™ CH530 controls.
- Use the unit wiring and interconnecting diagrams to understand the unit.
- Describe the control start sequence and operating control logic.
- Replace a LLID on a chiller with CH530 control using TechView.
- Generate an ASHRAE® chiller report on a chiller using TechView.

### Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

### Who Should Attend

This course is intended for contractor and in-plant HVAC service technicians who will work regularly with Trane CGAM and/or CGWF scroll chillers.

### Qualifications

The student must have solid electrical skills equal to Trane University's HVAC Electrical Troubleshooting course standards. Service experience with other types of liquid chillers and/or Trane's chiller control systems would be helpful but are not required. Familiarity with basic computing skills, file management and internet downloading procedures is also desirable.

# Single-Stage Absorption Chillers

**Length:**  
4.5 days

**Day and time:**  
Mon–Thu: 8 am–4:30 pm  
Fri: 8–11 am

**Course Cost:**  
\$2500

**Continuing Education  
Units:**  
3.2

**Recommended search:**  
Absorption

Register Now! Trane Education Center

## Course Description

This course is a thorough and comprehensive presentation on the foundational understanding of absorption chillers and their refrigeration cycle. Topics include a detailed view of absorption chiller components, instruction in the theory of absorption chiller operation and in the lithium bromide chemical cycle, the chemistry of inhibitors, overview of capacity control system operation, crystallization causes and effects, purge system operation, and performance and operator logging recommendations.

This course utilizes an operational absorption chiller with UCP2 micro control. This provides our students a practical, hands-on opportunity to attain the confidence they need to work with these chillers.

## Specific Course Objectives

Upon completion of this course, participants should be able to:

- Describe absorption chiller construction.
- Recognize major absorber components and describe their functions.
- Discuss the characteristics of lithium bromide in relation to charging and inhibitors.
- Use an Equilibrium Chart to determine system conditions.
- Describe the sequence of control operation (pneumatics and electric).
- Demonstrate how Trane's UCP2™ Adaptive Control™ technology has been applied to absorption chillers.

## Lab Safety

Instructor provided PPE is required for the hands-on live circuit portion of this course. The proper clothing should also be worn: long pants and long sleeves of 100% cotton.

## Who Should Attend

This course is for technicians who desire a comprehensive understanding of the theory of absorption refrigeration systems.

## Qualifications

The student should have a working knowledge of pneumatic, electrical, heat transfer, steam and mechanical systems.

## Online Classes

Trane University™ is pleased to offer online learning and development solutions. These courses are created with the same high quality as you would receive if you attended one of our classroom offerings.

Here are some of the benefits to our online learning:

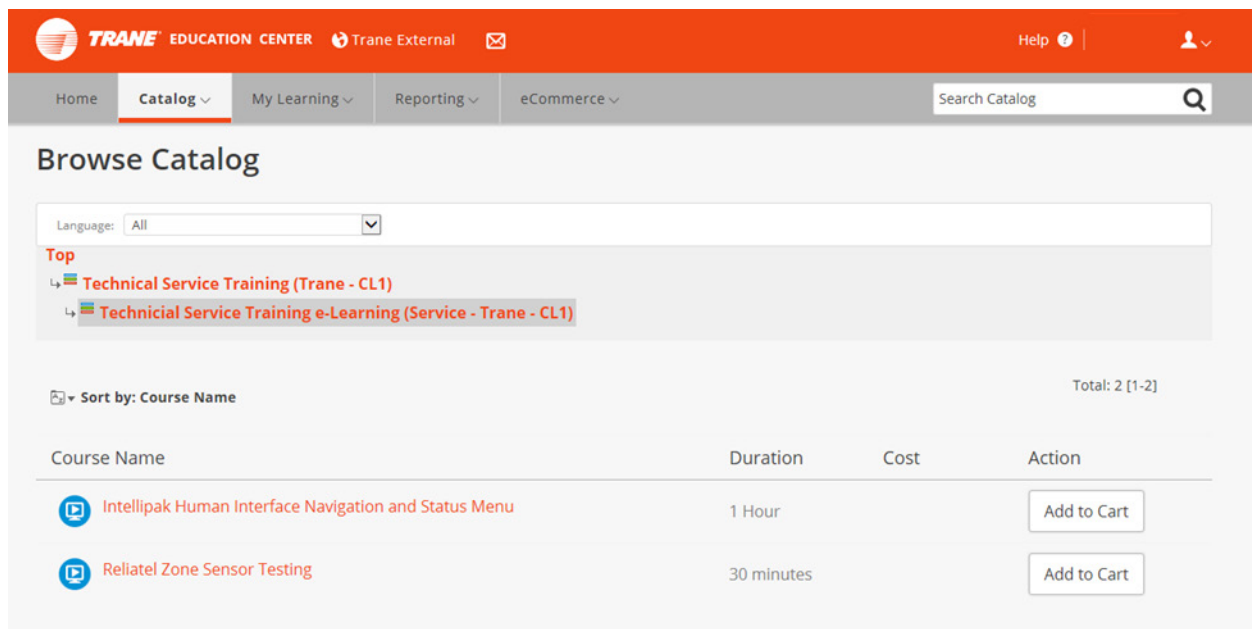
**Convenient:** Being able to study anywhere and at any time, gives you control of your education. You decide when to complete the training and you can return to it at any time. All you need is a computer and access to the internet.

**Flexible:** Whether you need more time with a particular subject or less time, you can move through the instruction at the pace you need to understand and apply the material.

**Stress-free:** Trane University online classes are easy to access from your individual Trane Education Center account and most have little to no cost associated with them.

Technical Service Training has a growing list of e-learning courses. To see the courses that are currently available: Login to the Trane Education Center, Click on Catalog and then Browse, finally Click on Technical Service Training.

If you need training and you don't see it or we don't offer it, please reach out to us at [traneuniversity@trane.com](mailto:traneuniversity@trane.com).



**TRANE EDUCATION CENTER** Trane External

Home **Catalog** My Learning Reporting eCommerce Search Catalog

### Browse Catalog

Language: All

**Top**

- Technical Service Training (Trane - CL1)
- Technical Service Training e-Learning (Service - Trane - CL1)

Sort by: Course Name Total: 2 [1-2]

Course Name	Duration	Cost	Action
Intellipak Human Interface Navigation and Status Menu	1 Hour		Add to Cart
Reliatel Zone Sensor Testing	30 minutes		Add to Cart

TECHNICAL SERVICE TRAINING

## Online Classes

### IntelliPak® Human Interface Navigation and Status Menu

**Length:**  
1 Hour

**Course Cost:**  
\$75

**Register here:**  
[Trane Education Center](#)

**Recommended search:**  
Intellipak Human

#### Course Description

The IntelliPak Human Interface Navigation and Status Menu program walks a service technician through basic navigation and status screens for IntelliPak Rooftop Units 20 to 162 tons.

#### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Effectively navigate the Intellipak Human Interface

### ReliaTel™ Zone Sensor Testing

**Length:**  
30 Minutes

**Course Cost:**  
\$75

**Register here:**  
[Trane Education Center](#)

**Recommended search:**  
ReliaTel

#### Course Description

This course is designed to provide Trane service technicians with in-depth information on ReliaTel Zone Sensor Module testing and troubleshooting.

#### Specific Course Objectives

Upon completion of this course, participants should be able to:

- Discuss the basic operation of a Zone sensor.
- Demonstrate how to properly test the Zone Sensor Module.
- Troubleshoot the Zone Sensor Module





# Trane Education Center (TEC) Frequently Asked Questions



## FAQ's

### **Do you have a schedule of upcoming courses? Yes.**

- Customers: Visit the [Class Finder](#) website
- Trane Independent Offices: Visit our [portal](#) page

### **I want to register myself for a course; where do I begin?**

1. Do you have a profile in Trane Education Center? ([www.trane.com/tec](http://www.trane.com/tec))
  - a. If yes...login to your account
  - b. If no...click on "New Customer? Register Here" and complete the form

### **What do I do if I have forgotten my username or password?**

1. If you need your password reset, click on the "Forgotten Password?" button on the TEC login page.
2. If you need your username, email us at [traneuniversity@trane.com](mailto:traneuniversity@trane.com).

*Are you registering other people? See Below for step by step instructions.*

**I want to register ONE of our company’s technicians for a course; where do I begin?**

1. Have they attended a training class from us before? Do they have a profile in Trane Education Center?

If yes to one or both questions:

- a. You know their login information...login to their account, search for the course, and proceed to payment
- b. You DON'T know their login information: email us at [traneuniversity@trane.com](mailto:traneuniversity@trane.com)

If no, Go to [www.trane.com/tec](http://www.trane.com/tec) and click on “New Customer? Register Here” and follow the prompts

**I want to register MULTIPLE technicians for a course; where do I begin?**

1. Have any of them attended a training class from us before? Do they have a profile in Trane Education Center?

- a. If yes to one or both questions...do YOU have a profile created already?
- b. If no...go ahead and create one for yourself, then proceed to the steps below
  - i. If yes...login to YOUR account, search for the course(s), add them to your shopping cart. On the first checkout screen, **uncheck “Enroll self”** and proceed to payment. Once you have completed payment you’ll be directed to go to the “My Orders” page. Select the “Actions” drop down and click “Use Key”. You’ll be asked to confirm the course and select whether you are enrolling yourself or others. Then you can apply the license keys to the appropriate technicians; search by TEC account username or technician last name and select the individual to enroll in the course.
  - ii. If no to one or both questions... click on “New Customer? Register Here” and follow the prompts to create a profile for each technician. If you don’t have one either, you’ll need to create one for yourself. Click on “Submit and Create Another” to save the information from the previous entry.

**Right after I created a profile, when I try to login it says my account has been locked, expired, or I have entered the wrong password.**

You should be receiving an activation email within the hour to activate your account.

**I never received a validation email after I created a profile. I can’t login to my account.**

Try checking your junk or spam folder. Then contact us at [traneuniversity@trane.com](mailto:traneuniversity@trane.com)

**I will be paying for this course or making the learners travel arrangements; can I also receive course information? Yes.**

You can add your email to the alternative email field in the learner’s profile and when we send the confirmation email with our travel recommendations, you will receive this information as well.

### **How do I search for a course?**

From your TEC home page, enter the course name or keyword in the catalog search field on the right side and click Search. (If it's difficult to find the course you're looking for, refer to the course description for recommended keywords.)

### **How do I find online courses?**

1. Login to your TEC account
2. From the gray bar near the top of the window, select Catalog > Browse > Select: [Controls and Automation OR Technical Service Training]

### **Where do I find the course cost?**

1. For customers: This can be found via the [Class Finder](#) or by searching for the course in your TEC account.
2. For Independent offices: This can be found on our [portal page](#)

### **What is included in the course cost?**

Lunch for every full day of class, student books and note taking materials.

### **What means of payment do you accept?**

We accept Credit Card (Visa, MC, Amex), Purchase Order/Check (must enter a PO # or check #) or Budget Transfers (for Trane Independent Offices).

### **How do I pay for a course?**

If a course has a cost associated with it, you will see an **Add to Cart** button; click this button to add the course to your shopping cart. You would then proceed to checkout. *NOTE:* Government Employees should follow this procedure as well.

### **Can I get a copy of my receipt or proof of the transaction?**

1. If you purchased training in your account...log into your account and go to the e-Commerce drop down, select My Orders and click on the Order Number to view or print the details
2. If you purchased training for someone else in their account... log into **their** account > e-Commerce > My Orders> Click on the Order Number to view or print the details

### **How do I know that I've been enrolled in a course?**

Login to your account. On your home page, all courses you are registered for will be listed under My Scheduled Learnings.



### Do you have hotel and travel recommendations? Yes.

Once the course reaches the minimum number of students, the learner and anyone's email listed as an alternative contact on their profile will be sent a confirmation email that will include a link to a website with BCD Travel's contact information, and our hotel recommendations. Please contact BCD Travel directly (1.866.598.3938) with all questions regarding hotel and travel reservations.

*Note:* We strongly recommend that you don't book travel until you receive this confirmation email.

**For St. Paul, MN and La Crosse, WI training ONLY:** If you stay at our preferred hotel, you'll receive transportation to and from class, evenings out and back to the airport.

### How do I un-enroll from a course?

1. From your TEC home page, click on the course name.
2. From the action section, click Un-enroll.

*Note:* If the un-enroll button is grayed out, email [traneuniversity@trane.com](mailto:traneuniversity@trane.com)







**Can I make a swap to the roster? Yes. How?**

Email [traneuniversity@trane.com](mailto:traneuniversity@trane.com) Note: If there's a waiting list for the course and you un-enroll your technician so that you can register someone else, you will lose your spot in the class.

**How do I know if I completed a course?**

1. From your TEC home page, select the My Learning drop down and click on My Learning History
2. Locate the course and check for a "Completed" status or a Certificate button

**How do I print a certificate for a completed course?**

1. If the certification is available for printing, from your TEC home page, Click on My Learning > My Learning History.
2. Locate the course and click the Certificate button.

**Do you offer any discounts or promotions? Yes**

1. When you register more than 60 days prior to the start date of a course, you get 10% off the tuition.
2. If you're planning to send multiple people to training, we have 3 package programs that could give you up to a 40% discount. For more information, email [traneuniversity@trane.com](mailto:traneuniversity@trane.com).

**Where can I find pre-requisites or pre-work information for a course?**

1. From your TEC home page, click on the Course Name.
2. On the right side of the screen, this document will be listed under Additional Resources.
3. If it lists eLearning modules, go back to your TEC home page and type the module course name key words into the search field and click Search, then Enroll.

**What is a Learning Path?**

A list of courses, learning objects or events that need to be completed within a specific time frame, (for example: a target completion date is created). You can create one (1) personal development Learning Path each year. You may also be enrolled in TEC Administrator created Learning Paths based on career, function or role requirements.

**What's your cancellation policy?**

You may cancel a registration up to 14 days before the course start date without penalty. Any cancellation made after that is subject to full tuition cost (student substitutions are allowed). If you do not cancel and do not come to class, you are considered a no-show. All no-show participants will be charged full tuition (including Trane Employees).

Trane University reserves the right to cancel any class. We will notify you of class cancellation on or before 14 days prior to the class start date. We are not responsible for any travel costs related to a class cancellation.





[ingersollrand.com](http://ingersollrand.com)

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