

Termis

2018 Training Guide

Training Offerings

The Educational Services team is pleased to offer publicly scheduled training courses in Ballerup, Denmark and Lake Forest, California, USA. We also offer customized on-site training courses at your location.

Course Locations

Ballerup, Denmark	Lake Forest, California, USA
Schneider Electric Education Centre, Europe Operations Lautrupvang 1 2750 Ballerup Denmark	Schneider Electric Software 10 Orchard Lake Forest, CA 92630 USA

Course Times

Unless otherwise indicated, all instructor-led classes at the training centers run from 9:00 a.m. to 4:00 p.m. local time.

Course Materials

Course materials are included in the registration fee.

Course Schedule

Ballerup, Denmark				
Course	Duration	Start Date	End Date	Price
Termis 7 Fundamentals	3 Days	12 Feb 18	14 Feb 18	EUR 1,870
		14 May 18	16 May 18	
		20 Aug 18	22 Aug 18	
		26 Nov 18	28 Nov 18	
Termis 7 Advanced - Topology	1 Day	15 Feb 18	15 Feb 18	EUR 670
		17 May 18	17 May 18	
		23 Aug 18	23 Aug 18	
		29 Nov 18	29 Nov 18	

Lake Forest, CA, USA				
Course	Duration	Start Date	End Date	Price
Termis 7 Fundamentals	3 Days	26 Feb 18	28 Feb 18	USD 2,000
		21 May 18	23 May 18	
		23 Jul 18	25 Jul 18	

		29 Oct 18	31 Oct 18	
Termis 7 Advanced - Topology	1 Day	1 Mar 18	1 Mar 18	USD 730
		24 May 18	24 May 18	
		26 Jul 18	26 Jul 18	
		1 Nov 18	1 Nov 18	

Course Registration Process

Registration is completed through any of the following processes:

- Self-registration through the training web portal: <https://industrialtraining.schneider-electric.com/aquistermis/portal/catalog.cfm?calendarID=174>
- Requisition through the Project/Services/Sales team
- Requisition through the Termis Support Team: dk-hso-support@schneider-electric.com

Please contact us if you are a Specialist Solution Provider Partner with a valid SSP agreement in place or if you are a Schneider Electric employee.

Training Web Portal

The training web portal is an on-line registration site. Each registrant needs to access the Software Training Services web-site and enter the required information. You will not be able to register if the course is full for the available spaces.

To view the schedule and/or register for a class:

1. Paste <https://industrialtraining.schneider-electric.com/aquistermis/portal/catalog.cfm?calendarID=174> into your web browser.
2. Browse the course offerings and click the Details & Availability button to view specific information about each course.
3. Click the Add to Cart button next to the date/location you wish to attend.
4. Begin the checkout process by signing in or registering for a new account.
5. Enter your purchase order number in the 'Customer Purchase Order' box. If you don't have the PO number available, type 'PO' in the box.
NOTE: The purchase order must be received before you attend the course.
6. Confirm your information and click 'Finish'. Once you have completed the registration process you will receive an email confirming your registration.

Payment Options

Purchase Orders are the only form of payment accepted. At this time we do not offer payment via credit card. During the registration process, type the purchase order number in the 'Customer Purchase Order' box. If you don't have the PO number available, just type 'PO' in the box.

Note: The purchase order must be received before you attend the course.

Purchase Order

Please follow the instructions below when issuing your purchase order:

1. Address the PO to the correct vendor based on the location of the course as shown below.
2. Note the location of course on the PO
3. When the PO covers multiple registrations, it should detail the student names and the courses involved (specifying prices):
 - a. Termis Fundamentals
 - b. Termis Topology
4. Email a copy of the PO to the email address shown below based on the location of the course. Please send it to 'Attention: Software Training'.

Location	Vendor	Tax Rate
Ballerup, Denmark	Schneider Electric Software GB Denmark Lautrupvang 1 2750 Ballerup Denmark	Local taxes may apply
Lake Forest, CA, USA	Schneider Electric Software, LLC 26561 Rancho Parkway South Lake Forest, CA92630, USA	0%

Location	Email Address
Ballerup, Denmark	software.denmark@Schneider-electric.com
Lake Forest, CA, USA	svcuslkf.finance@schneider-electric.com

Cancellation Policy

It is recommended that you do not make travel arrangements until 2 weeks / 10 business days prior to the start of the course. Schneider Electric reserves the right to cancel classes up to two weeks prior to the start of the class based on course registration levels.

If your plans change and you cannot attend as scheduled, be sure to notify us as soon as possible at dk-hso-support@schneider-electric.com. Class sizes are limited so tuition charges are refunded ONLY if cancellation notice is received via email at least two weeks / 10 business days prior to the first day of class.

Termis 7 Fundamentals

Course Description

The Termis 7 Fundamentals course is a 3-day, instructor-led class designed to provide a fundamental understanding of the features and functionality of the Termis software. The course provides lectures and hands-on activities to supply and reinforce the knowledge necessary to use Termis to model hydraulic networks, including online modeling capabilities. The course covers how to configure boundary conditions at model objects, scenario creation, events definition, conditions, measurements, and other design features.

Objectives

Upon completion of this course, you will be able to:

- Create a model and define boundary conditions (hydraulic requirements)
- Add object types (nodes, pipes, plants, and so on)
- Edit data using the generic object editor
- Import external data (such as GIS and CAD files)
- Add units (physical types)
- Validate a model and run a simulation
- Apply measurements
- Work with flow-control zones
- Define conditions
- Close an area or a connection
- Create and configure new object attributes
- Define calculation formulas on attributes
- Apply themes
- View results using graphic elements such as a profile
- Use consumer data and update the data
- Use dashboards
- Create pipe tables and pipe dimensioning
- Apply triggers and timers
- Create reports

Audience

Engineers, Specialist solution providers, consultants, and other individuals who are new to Termis or have acquired some knowledge through self-study, but need more information on best practices, modeling processes, and sequences, including online modeling capabilities.

Prerequisites

- Fundamental understanding and knowledge of hydraulics and district energy (heating/cooling)
- Previous experience in hydraulic modeling would be helpful

Course Outline

Module 1 – Introduction

Section 1 – Course Introduction

This section describes the objectives of the course and provides the course outline. It explains the philosophy behind Termis and discusses goals and the benefits that can be obtained with the system.

Section 2 – General User Interface

This section is a general introduction to the Termis user interface: menus, status line, timeline, dashboards, and multiple editing options.

Section 3 – Layers Menu

This section explains how to use the main Layers menu to properly handle the different layers that can make up the model: Background and Topology, Scenario, and Customer layers.

Section 4 – Editing Capabilities

This section explains how to edit data in the model and create new object attributes and model parameters to be adapted to particular customer/project needs.

Section 5 – Test Data Folder and Start-Up Folder

This section explains the sample model and basic template users will use when starting a new project.

Module 2 – Hydraulics

Section 1 – Boundary Conditions

This section describes how to correctly define boundary conditions for simulating a model. It explains the boundary conditions needed for nodes, plants, and pipes.

Section 2 – Other Object Attributes

This section goes through the rest of the parameters needed to configure an object, but which are not used as boundary conditions in nodes, plants, and pipes.

Section 3 – How to Define Boundary Conditions

This section describes the different ways to add boundary conditions to objects, including linking to SCADA measurements, calculating by a formula, and defined by a time series.

Section 4 – Units of Measurements

This section shows how to configure different system units and how to create a new unit.

Section 5 – Simulation Options

This section describes the simulation menu and how to view results.

Module 3 – Background Information and Model

Section 1 – Import Background layers

This section describes how to import GIS shapefiles and CAD dxf files to be used as background layer information in the model.

Section 2 – Background Maps

This section explains how background maps can be added to the model. It describes the map transformation process using the known coordinates of three points.

Section 3 – From Model to Scenario

This section explains how to create a 1:1 Scenario layer from the Model and Consumer layers.

Section 4 – Adjusting the View

This section describes the tools and parameters to adjust to view zones of the model and objects. These include predefined views' bookmarks, zoom tools, and display and hide limits.

Module 4 – Edit and Find Objects

Section 1 – Selection

This section explains the different ways to select elements in the model. It reviews Topology and Hydraulic selection.

Section 2 – Edit

This section describes the different tools available in the Edit All menu, such as filter, sort, find and replace, copy and paste, and change all values in bulk.

Section 3 – Find

This section explains the Find window (Ctrl+F).

Module 5 – Pumps and Valves

Section 1 – Boundary Conditions

This section describes how to properly configure boundary conditions for pumps and valves and the different options available. These options include Q-P curve, pump speed (definition and actual), downstream pressure, upstream pressure, flow, dP, and NRV.

Section 2 – How to Define Boundary Conditions

This section describes the different ways of adding boundary conditions to pumps and valves, including static values, linking to SCADA measurements, calculating by a formula, defining using time series, and applying conditional control.

Section 3 – Convert Valves

This section explains how to convert valves from the Valve category to the Shutoff category and vice versa.

Section 4 – Closing Elements

This section describes the differences and tools used for closing a connection, an area, and elements using work orders.

Module 6 – Other Objects and Configuration of Objects

Section 1 – Other Objects

This section explains how to configure bypass, shunt, heater and accumulator.

Section 2 – Object Editor Configuration Menu

This section describes the Object Editor Configuration menu and explains how to modify the attributes associated with an object, and define new ones. It discusses the high-level revision available for the list of

functions (CALC).

Module 7 – Results

Section 1 – Themes

This section describes a theme and how it is created and modified. It explains how to add legends and discusses the different visualization options included in the Layers and Show menus.

Section 2 – Paths and Profiles

This section explains a path and how it is used. It discusses how to create profiles.

Section 3 – Scenario Comparison

This section describes how to compare two different scenarios in the model.

Section 4 – Export Options

This section describes how to export model information to different formats, such as shapefile, dxf, and Excel.

Module 8 – Consumers

Section 1 – Data

This section describes the minimum information needed in a Consumers layer. It explains how consumer information can be imported into the model, and the suitable formats for importing the information.

Section 2 – Affiliation

This section explains in detail how to affiliate consumer demands to model nodes.

Module 9 – Model Configuration

Section 1 – Pipe Table

This section describes how to create a pipe catalog and use it by applying the look-up function.

Section 2 – Pipe Dimensioning

This section explains the different criteria that can be used in Termis for pipeline design using the auto-dimensioning tool.

Module 10 – Advance Simulation Data

Section 1 – Using Time Series

This section describes the two main purposes of using time series in the model: visualization and control. It explains the different ways of creating time series, including manually, by reference, by using a measurement, copying an existing time series, or by calculation.

Section 2 – Flow Control Zones

This section explains the Flow Control Zone (FCZ) object. It discusses how to create the object and the benefits of having FCZ in the model.

Module 11 – Dashboards

Section 1 – General Overview

This section describes the Edit/Dashboards menu. It explains how dashboards can be exported and imported, and how the different user levels are used to manage access.

Section 2 – Working with Dashboards

This section explains the most relevant elements that can be configured in a model. It presents and discusses the default model dashboards.

Module 12 – Advanced Features

Section 1 – Conditional Controls

This section further explores conditional controls, including global and local, 7Flow conditions, how to define conditional controls, and how they are used.

Section 2 – Timers and Triggers

This section explains how timers and triggers work and how they are used in combination to automatic reports.

Section 3 – Reports

This section describes how to work with reports, including default reports, custom definition, and storing folders.

Termis 7 Advanced – Topology

Course Description

The Termis 7 Advanced - Topology course is a 1-day, instructor-led class designed to provide in-depth knowledge of how to create a model and different scenarios. This compact workshop provides lectures and hands-on activities that explain how to use external data (GIS, CAD, and consumer databases) to create a model. Model update and scenario simplification tools are also covered.

Objectives

Upon completion of this course, you will be able to:

- Create models based on external data, including importing network geometry, elevation, and consumption
- Create scenarios and perform scenario simplification
- Update a model and use the Smart Update tool
- Work with spatial attributes

Audience

Engineers, Specialist solution providers, consultants, and other individuals who have fundamental knowledge in Termis, but need more information on best practices; modeling processes; and sequences in model creation, update, and simplification.

Prerequisites

- Fundamental understanding and knowledge in Termis
- 3-day Termis Fundamentals course, which is delivered the same week (highly recommended)
- Previous experience in hydraulic modeling would be helpful

Course Outline

Section 1 – Model Creation Workflow

This section describes the sequence for creating a model based on external data. It covers the different sources of information, suitable file formats, data structure for attribute mapping, and parameters to ensure connectivity.

Section 2 – Model Update

This section explains how to add additional information once the model is created. It describes how to reload data from the same source of information or from a new source. It also explains how to use the Smart Update tool.

Section 3 – Consumers and Elevation

This section describes how to work with consumers and elevation in the model, both of which are relevant data, usually coming from external data sources, but which are not part of the previous Model Creation Workflow.

Section 4 – Scenario Simplification

This section explains how to create a simplification scenario of the model, which is hydraulically

equivalent to the 1:1 model, but more manageable and has better performance. This is especially important for the online models, which should be running in cyclic mode every “x” minutes, and where key points for hydraulic supervision are monitored.