

Trend Technical Training Prospectus 2017

April – July 2017

Expected Release Date for the August - November Prospectus:

June 2017



www.trendcontrols.com

www.elearningtrendcontrols.com

TREND

Overview

IQ®VISION integrates Trend controllers, third party smart devices and internet protocols into a centralised software platform that is designed to manage various sizes of buildings from single stand-alone sites to enterprise level, giving building owners and managers the ability to identify issues and optimise their systems.

Who will benefit

This course is required by any engineer who is involved with the design, installation, commissioning and servicing of a Trend IQ®VISION Supervisor.

Duration

3 Days including End of Course Exam

Preparation and prerequisites

This is specialist course and the delegates must have completed the System Engineering and IQ Engineering courses as a minimum and must have a good working knowledge of IQ®SET, as well as the Trend and BACnet protocols.

Course Objectives

By the end of the course participants will have gained an in depth understanding of the following:

- ❖ Installation and Configuration of the Trend IQVISION Supervisor
 - ❖ Configuration and Use of both the Trend and the BACnet Drivers
 - ❖ Differences between the manual Site Discovery and using the Migration Tool to import LANs and Outstations from SET
 - ❖ Features of the Niagara Driver, including Time Schedules
 - ❖ Configuration of a Master Time Schedule to update the relevant Controller Time Zones
 - ❖ Alarm Configuration
 - ❖ Configuration of Graphics Pages both from scratch and using the 963 Schematic Migration Tool
 - ❖ Creation of Dashboard Graphics and Generic Pages
-

Contents

- Concept and Introduction
- Initial Setup
- Manual Network Discovery
- Importing LANs and Controllers from SET
- Configuring the BACnet Driver
- Time Schedules
- Master Time Schedules
- Configuring and using Histories
- Receiving Alarms from Trend and BACnet Networks
- Migrating Graphic Pages from 963
- Creating a Graphics Template
- Engineering of an AHU Graphic
- Re-usable Graphics/Generic Pages
- Linking dynamic Graphics to Analogue Values
- Creating a Dashboard Page
- Security – creating NAV Files, User Categories and User Roles
- Administrative Tasks
- End of Course Exam

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National and Regional Training Centres

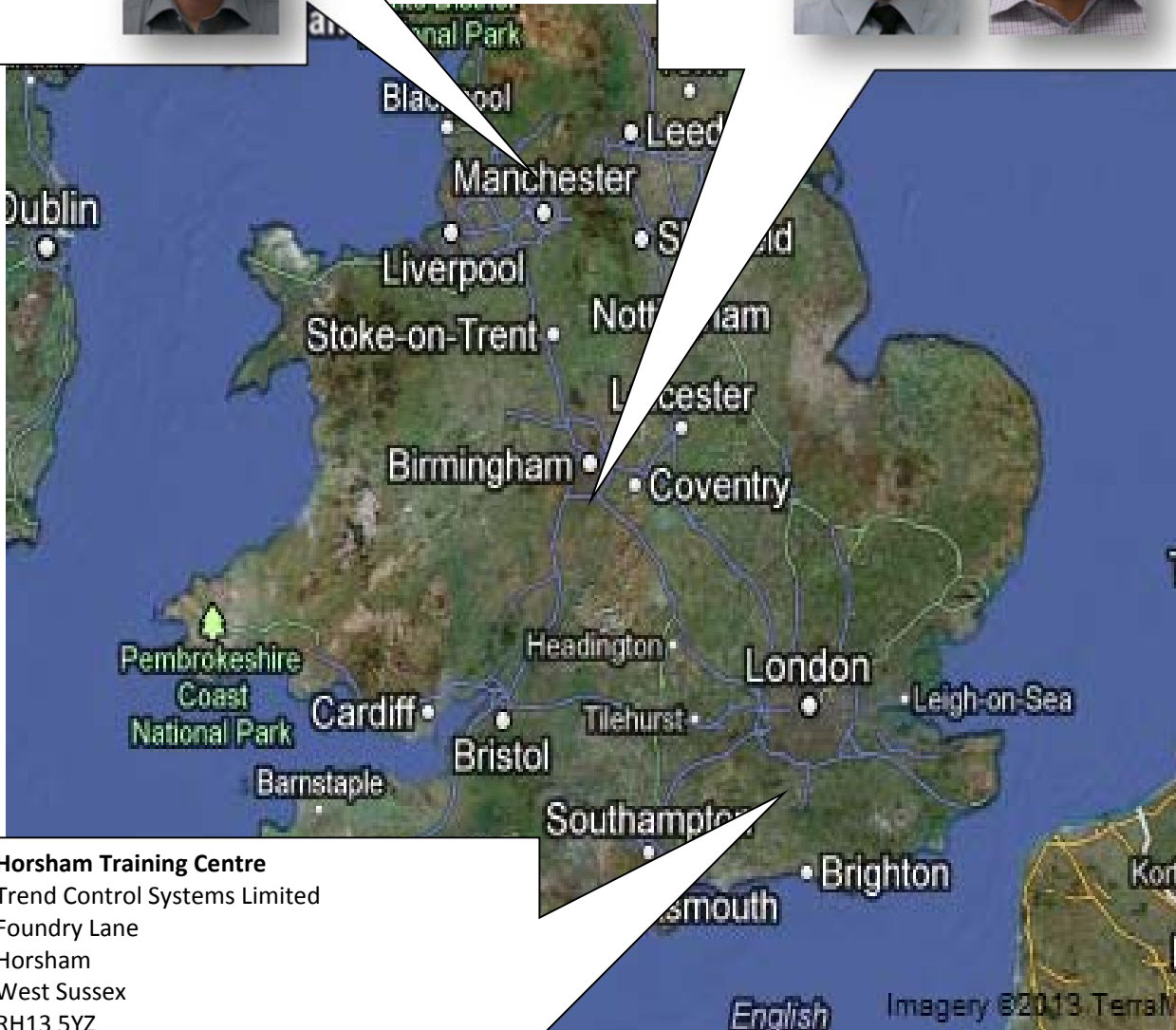
Bury Training Centre

Chatsworth House
Hollinsbrook Park
Bury
BL9 8RN



Redditch Training Centre

Burnt Meadow Road
Moons Moat North Industrial Est
Redditch
B98 9PA

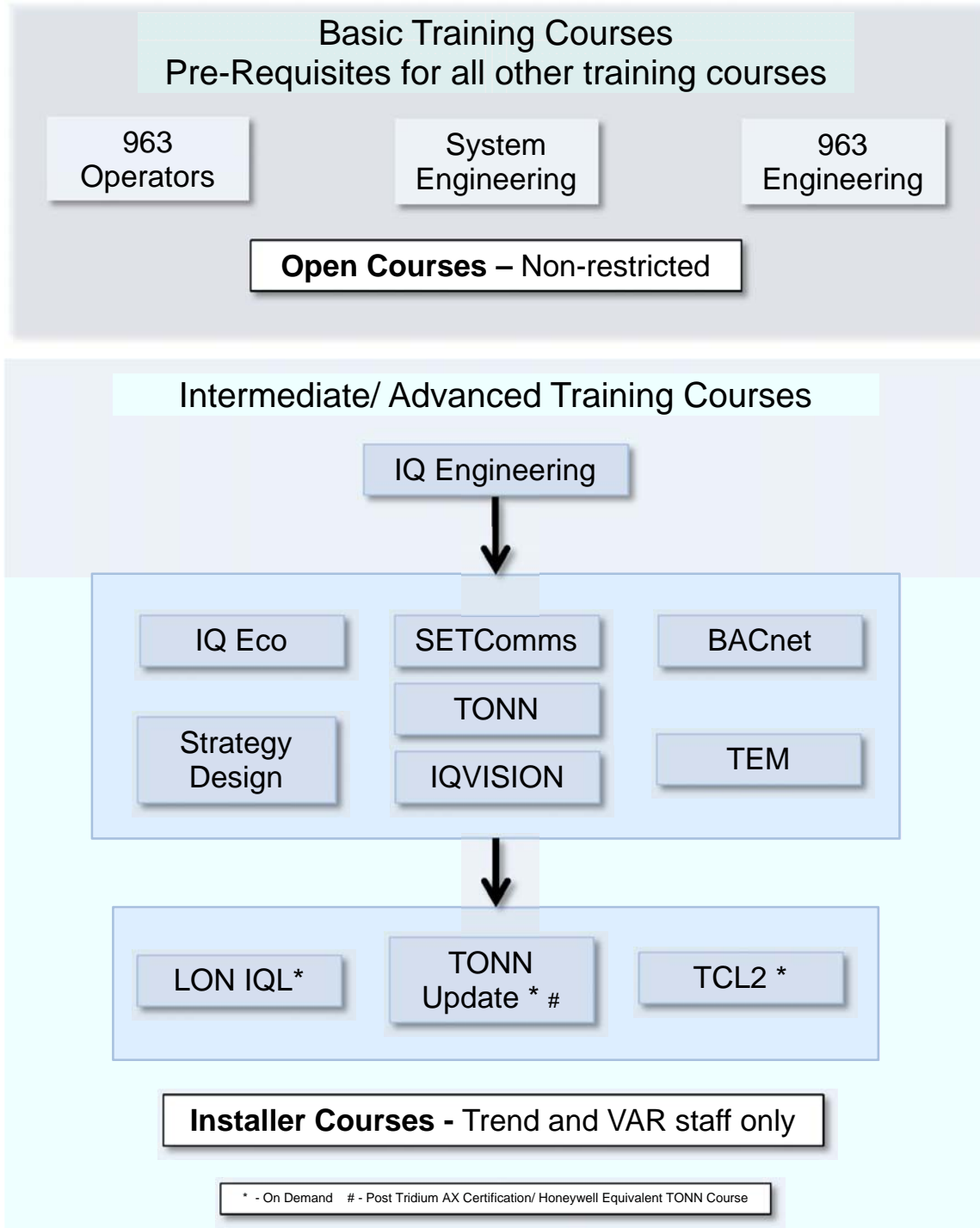


Horsham Training Centre

Trend Control Systems Limited
Foundry Lane
Horsham
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Telephone: 01403 226 465



Trend Training Progression Chart



963 Operators

Overview

The course covers the use of the Trend 963 Supervisor to monitor and control the Building Management System. It provides a general overview of the Trend system and covers the basic supervisor features. Delegates will gain a basic knowledge of the system and experience at operating the supervisor. The 963 supervisor is secure to 21 FCR Part 11.

This course is also available as E-Learning, please see website for further details:

http://www.skills2learn.com/trend-controls/courses.php#course_PC_963ops

Who will benefit

Any user of a Trend system that is monitored and controlled by a 963 Supervisor. This could be an operator who needs to be able to monitor and change operating parameters such as occupation times or setpoints, or an operator who needs to examine or acknowledge alarms.

Course Duration:	2 days
Course Cost:	£710 +VAT
Pre-requisites:	Nil
Eligibility:	Primarily Licensed Installers, End Users see Trend Engineering Overview Course

963 Engineering

Overview

This course reveals the flexibility of the 963 Supervisor to monitor plant control and performance. Exercises and practical projects are used to cover setting up schematics, the device view, graphs, the diary, and alarms to suit the application requirements. The 963 supervisor is secure to 21 FCR Part 11 and the course covers applying this standard to the installed Trend system. Setting up and using mean kinetic temperature (MKT) sensors is covered on the course.

Who will benefit

This course is needed by an engineer who is responsible for setting up a 963 Supervisor. It is also useful for the advanced 963 user who wishes to upgrade and customise their supervisor.

Course Duration:	3 days
Course Cost:	£1,350 +VAT
Pre-requisites:	System Engineering Course followed by 963 Operators Course
Eligibility:	Licensed Installers and authorised End User

System Engineering

Overview

This course covers the hardware elements that make up a Trend system and the basic concepts behind the operation of IQ® controllers. It leads to the ability to set up the hardware of IQ®4, IQ®3 and IQ®2 series controllers and install them on a Trend network. Trend System Engineering Tool (SET) is used to configure controllers, map the network and demonstrate controller values and parameters.

Who will benefit

This course is required for any person who is responsible for installing or maintaining a Trend system. It is also useful to those who need to know the range of Trend products or how an IQ® controller operates.

Course Duration:	2 days
Course Cost:	£710 +VAT
Pre-requisites:	Nil
Eligibility:	Primarily Licensed Installers, End Users see Trend Engineering Overview Course

Trend Engineering Overview Course - End Users Only

Overview

This course covers elements from the **System Engineering** and **963 Operators** courses and integrating them into a course for those people who have responsibility for maintaining a Trend system. The course covers the hardware elements that make up a Trend system and the basic concepts behind the operation of IQ® controllers and the use of the Trend 963 Supervisor to monitor and control the Building Management System. It provides a general overview of the Trend system and covers the basic supervisor features.

Who will benefit

This course is required for any person who is responsible for maintaining a Trend system. It is also useful to those who need to know the range of Trend products or how an IQ® controller operates.

Please note – This course is run on demand, please contact the Training department for details.

Course Duration:	4 days
Course Cost:	£1420 +VAT
Pre-requisites:	Nil
Eligibility:	End Users Only

Trend Energy Manager V2

Overview

This course covers the features of the Trend Energy Manager. It is intended primarily for end users with an understanding of Energy Management techniques and covers the way that the TEM product works to enable the day to day analysis of Energy usage.

Who will benefit

This course is needed by any person who is required to manage and analyse energy usage and performance of their properties using Trend Energy Manager

Please note – This course is run on demand, please contact the Training department for details.

Course Duration:	2 days
Course Cost:	£900 +VAT
Pre-requisites:	An understanding of Energy Management techniques and an appreciation of the Trend system
Eligibility:	End User and Licensed Installers

TEM V2 – E-learning Course

This is designed as a pre-requisite learning module for Licensed Installers and covers the installation and the initial set-up of the software. Please see website for further details:

http://www.skills2learn.com/trend-controls/courses.php#course_PC_963ops

IQ® Engineering

Overview

This course covers the IQ® controller internal software modules, and how to program control strategies using IQ®3 controllers. Delegates will use Trend's System Engineering Tool (SET) to create and modify simple strategy diagrams. The basic requirements of TCP/IP to install an IQ®3 on Ethernet are taught. The course also covers backup and restore of controller data files.

Who will benefit

This course is required by any person in a project or maintenance role who is responsible for setting up or modifying IQ® controller software modules, or who needs to understand strategy diagrams. The course is also useful to specifiers to illustrate the range of control offered by Trend controllers.

Course Duration:	3 days
Course Cost:	£1,350 +VAT
Pre-requisites:	System Engineering Course
Eligibility:	Licensed Installers only

IQ® Eco

Overview

This course provides the engineer with information, on the IQ®Eco range of products, its connections and features, and how it connects to Trend and Non Trend equipment, using its two sides of functionality; Trend and BACnet. Through various practical exercises, the engineer will learn how to use the new features of the IQ®Eco and SET over Ethernet and USB to commission the IQ®Eco devices.

Who will benefit

Any Trend Engineer that is required to install and commission Trend IQ®Eco devices.

Course Duration:	2 days
Course Cost:	£900 +VAT
Pre-requisites:	IQ® Engineering Course
Eligibility:	Licensed Installers only

SET Comms

Overview

The course has a high level of practical work covering the advanced features of the Trend System Engineering Tool (ToolSET), text comms and inter-controller communications. Starting without any strategy drawings, delegates follow the sequence of events used by engineers when visiting a site. After backing up the site controllers, the data files are reverse engineered to create strategy drawings. The course then covers the use and creation of plant blocks. The text communications section includes a study of powerful techniques to assist strategy fault finding and a tutorial covering attribute addressed inter-controller communications.

Who will benefit

Any engineer who is involved with using ToolSET and commissioning or maintaining the software of a large Trend system, and who wishes to have an understanding of the facilities available to aid rapid commissioning and fault finding.

Course Duration:	1 day
Course Cost:	£450 +VAT
Pre-requisites:	IQ® Engineering Course
Eligibility:	Licensed Installers only

TONN Engineering

Overview

This course covers the features, application and programming of the Trend Open Network Node (TONN) interface using the TONN Engineering Suite (TES). It is intended primarily for engineers developing new integration applications to 3rd party systems, and includes a short introduction to Modbus and LonWorks protocols. The course also covers configuration and use of the Trend Open Protocol Server (TOPS) with the TONN (Niagara) driver.

Who will benefit

This course is needed by any person who is concerned with the design, installation or commissioning of a Trend TONN system. The TES programming software is licensed ONLY to channel partners who have signed a TES agreement and attended the TONN course; it is NOT available on general release.

Course Duration:	3 days
Course Cost:	£1,350 +VAT
Pre-requisites:	IQ® Engineering Course
Eligibility:	Licensed Installers only

TONN Update

Overview

This course introduces the Trend Open Network Node and demonstrates its place in the Trend System. This course is aimed at Engineers with previous Tridium Niagara experience; you will be required to provide proof that pre-requisites are met.

Please note – This course is run on demand, please contact the Training department for details.

Course Duration: 1 day
Course Cost: £450 +VAT
Pre-requisites: IQ® Engineering and Tridium Niagara AX Certification
Eligibility: Licensed Installers only

BACnet Engineering

Overview

This course gives the engineer a general explanation of BACnet and of how Trend has implemented BACnet into our current products. Through various practical exercises, the engineer will learn how to use SET to configure communications between Trend and 3rd Party BACnet devices and also how to use TOPS to integrate 3rd Party BACnet devices in to the 963 Supervisor.

Who will benefit

Any Trend engineer that is required to interface Trend Products with 3rd Party BACnet devices.

Course Duration: 1 day
Course Cost: £450 +VAT
Pre-requisites: IQ® Engineering & 963 Engineering
Eligibility: Licensed Installers only

Overview

This course covers the features, application and programming of the new Trend IQVISION Supervisor. The course is primarily intended for engineers concerned with the installation, setup and configuration of the IQVISION on sites requiring integration of various protocols into a single Supervisor. The course covers use of the Trend and BACnet Drivers, and how to utilise IQVISION's inbuilt Niagara Driver to create Master Time Schedules. Through various practical exercises, the engineer will learn how to set up and configure IQVISION both from scratch and using the SET Migration Tool, including Driver setup, Time Schedules, and Security. The configuration of Graphic Pages is explained in detail using setup from scratch and importing existing 963 Schematics using the Migration Tool.

Who will benefit

This course is required by any engineer who is concerned with the design, installation, commissioning and servicing of a Trend IQVISION Supervisor.

Course Duration:	3 days
Course Cost:	£1,350 +VAT
Pre-requisites:	IQ [®] Engineering is essential, SET Comms, TONN and BACnet are desirable
Eligibility:	Licensed Installers only

Strategy Design

Overview

This course guides delegates through the process of control strategy design using a real building case study. Initially an analysis of the specification is undertaken. Delegates are then taught to adopt a systematic approach to strategy design using checklists, best practice and standard solutions. The course moves from a simple HWS system to a complete LPHW lead/lag boiler plant control strategy. Discussion of student and model solutions takes place at each stage.

Who will benefit

This course is required by anyone having responsibility for converting control specifications into working software control strategies for IQ[®] controllers.

Course Duration:	2 days
Course Cost:	£900 +VAT
Pre-requisites:	IQ [®] Engineering
Eligibility:	Licensed Installers only

IQL Engineering

Overview

The course starts with a brief overview of LON, including the Trend implementation of the Lon system. The main part of the course covers the functioning, installing and commissioning of Trend IQL controllers and associated equipment. Delegates are given detailed information and practical experience of setting up a small Lon system using Trend software tools and viewing the results. The course also includes methods of configuring the controller software to obtain maximum benefits, and integrating a Trend LON system into a standard IQ® controller LAN. Recommendations for commissioning a large system are included. The Trend IQL system is self-building; binding is not normally necessary and is not covered on the course.

Who will benefit

This course is needed by any person who is concerned with the design, installation, commissioning or fault-finding of a Trend IQL system.

Please note – This course is run on demand, please contact the Training department for details.

Course Duration:	1 day
Course Cost:	£450 +VAT
Pre-requisites:	SET Comms
Eligibility:	Licensed Installers only

TCL Tool 2

This course has been spilt in to two 1-day courses which can either be taken separately or together

Overview

This course covers the features, application and programming of the IQ4XNC interface using TCL Tool 2. It is intended to provide a base knowledge for engineers developing new applications.

IMPORTANT NOTE: Existing TCL applications which have been locked cannot be edited. Customers should refer to the company which wrote the original application if changes need to be made.

Who will benefit

The TCL Tool 2 programming software is licensed ONLY to course attendees; it is NOT available on general release. Hence this course is essential for any person wishing to program the IQ4XNC.

IMPORTANT NOTE: This is a dialect of Basic, the delegate should have an understanding of this, or a similar high-level computer programming language, such as C++.

Course Duration:	1 day
Course Cost:	£450 +VAT
Pre-requisites:	HVAC Knowledge and TIS Status
Eligibility:	Licensed Installers only

XNC Drivers

Overview

This course covers the features, application and use of the IQ4XNC interface using SET & Driver solutions. It is intended for engineers wishing to install prewritten XNC programs or use the Trend developed Mbus or Modbus drivers.

IMPORTANT NOTE: Existing TCL applications which have been locked cannot be edited. Customers should refer to the company which wrote the original application if changes need to be made.

Who will benefit

The XNC drivers' course is open to all engineers. Though this is under the integration family of courses. No specialist software or knowledge is required.

Course Duration:	1 day
Course Cost:	£450 +VAT
Pre-requisites:	IQ® Engineering Course
Eligibility:	Licensed Installers only

Trend Expert Exam

Overview

The scheme has a single level of test, Trend Expert.

The test has three variants: General, 963 and IQ®.

- The General test is broadly based on the requirements of a commissioning engineer.
- The 963 test is for engineers specialising in 963 operation and engineering with limited requirement for IQ® hardware and software knowledge in their day to day jobs.
- The IQ® test is for engineers specialising in control strategies with little need for 963 knowledge.

The test lasts for 90 minutes and consists of 100 multiple-choice questions over 5 Sections, selected at random from a database containing over 400 questions.

		General	963	IQ®
Section 1	System Engineering	30	30	30
Section 2	963 Supervisor	20	70	0
Section 3	IQ® Engineering	30	0	60
Section 4	IQ®3 + IQL	10	0	10
Section 5	Integration	10	0	0

Four of the five sections must be passed in order to pass the General Exam and become a Trend Expert. For delegates taking the 963 and IQ® exams the specialist section (963 and IQ® Engineering respectively) must be passed.

Candidates requiring Access Arrangements, as defined under the Disability Discrimination Act (UK), should inform the Training Administrator when booking the exam.

Please note – The Exam is also run on demand, please contact the Training department for details

Exam Duration:	3 Hours
Exam Costs:	£50 +VAT Re-sits (30 days post failure) £25 +VAT
Pre-requisites:	Trend Core Courses
Eligibility:	Licensed Installers

HVAC Fundamentals

Overview

This intensive course covers the principles of HVAC. This assessed course gives an overview of the systems and technologies used in the Heating, Ventilating and Air Conditioning Industry. This course also covers building control and building management systems.

For more information on this course please e-mail Training Administration at education@trendcontrols.com or go to the BCIA Training website page: <http://bcia.co.uk/training-careers/>

Course Dates

963 Operators

Course Dates	Location
03 – 04 April	Horsham
11 - 12 April	Bury
19 – 20 April	Redditch
15 – 16 May	Horsham
05 – 06 June	Horsham
08 – 09 June	Bury
22 - 23 June	Redditch
10 – 11 July	Horsham
13 – 14 July	Redditch
27 – 28 July	Bury

System Engineering

Course Dates	Location
11 – 12 April	Redditch
24 – 25 April	Horsham
31 May – 01 June	Redditch
05 – 06 June	Bury
06 – 08 June	Horsham
20 – 21 June	Redditch
03 – 04 July	Horsham
10 – 11 July	Redditch
18 – 19 July	Horsham
24 – 25 July	Bury
31 July – 01 August	Horsham

Trend Engineering Overview Course - End Users Only

Course Dates	Location
On Demand	

963 Engineering

Course Dates	Location
05 – 07 April	Horsham
25 – 27 April	Bury
17 – 19 May	Horsham
07 – 09 June	Horsham
13 – 15 June	Redditch
27 – 29 June	Bury
12 – 14 July	Horsham
18 – 20 July	Redditch

Trend Energy Manager V2

Course Dates	Location
13-14 June	Horsham

IQ® Engineering

Course Dates	Location
04 – 06 April	Redditch
26 – 28 April	Horsham
31 May – 02 June	Bury
06 – 08 June	Redditch
14 – 16 June	Horsham
04 – 06 July	Redditch
05 – 07 July	Horsham
18 – 20 July	Bury

IQ® Eco

Course Dates	Location
04 – 05 May	Redditch
21 – 23 June	Bury
25 – 26 July	Horsham

IQ4E

Course Dates	Location
On Demand	

IQL

Course Dates	Location
03 May	Horsham

SET Comms

Course Dates	Location
04 May	Horsham
22 June	Horsham

TONN Engineering 3 Day

Course Dates	Location
19 – 21 April	Horsham
31 May – 02 June	Horsham
27 – 29 June	Horsham
25 – 27 July	Horsham

TONN Engineering 1 Day

Course Dates	Location
On Demand	

Course Dates	Location
07 – 09 March	Horsham
19 – 21 April	Horsham
25 – 27 April	Redditch
26 – 28 April	Horsham
03 – 05 May	Horsham
09 – 11 May	Horsham
09 – 11 May	Bury
16 – 18 May	Horsham

BACnet Engineering

Course Dates	Location
03 May	Redditch
20 June	Bury
24 July	Horsham

Strategy Design

Course Dates	Location
09 – 10 May	Horsham
21 – 22 June	Horsham

TCL Tool 2

Course Dates	Location
12 April	Horsham
28 June	Horsham

XNC Drivers

Course Dates	Location
11 April	Horsham
27 June	Horsham

Trend Expert Exam

Course Dates	Location
06 July 2016	Horsham

Trend Training Terms and Conditions

1. Normal terms and conditions of sale of Trend apply to the provision of all training services and transactions except where modified specifically by this or any other agreed document.
2. The cost of the course is shown on the course schedule, and is excluding VAT. Until a Training Confirmation Form has been issued by Trend acknowledging the customer's order these prices may be varied at any time.
3. Unless stated otherwise, all scheduled Trend training courses include refreshments and lunch. The attendee must inform Trend of any special dietary requirements at least one week before the course start date. Special may mean any health or allergy restrictions and any vegetarian/vegan, moral, religious or ethnic requirements.
4. The course attendee agrees to comply with the Health and Safety, Fire Regulations and smoking policies in force at the location where the training is to be held.
5. Acceptance of an attendee on any course is dependent upon the participant having completed any prerequisites defined by Trend.
6. Cancellations are subject to the following scale of charges:
 1. Five or more working days notice No charge.
 2. Less than five days but at least two working days notice 50% of the course fee.
 3. 'No-shows' defined as less than two working days notice 100% of the course fee.
 4. The charge for no-shows will also apply to delegates who have accepted a free-of-charge place.
7. Provisional bookings are not guaranteed places. Firm bookings will take precedence over provisional bookings on a first come, first served basis. Full bookings must be made in the name of the participant.
8. Substitution of an attendee is acceptable if agreed in writing in advance with Trend and the substitute meets any prerequisites of the course.
9. No contract or Agreement exists between Trend and the course attendees until Trend has given written confirmation of order acceptance with a Training Confirmation Form.
10. The date and venue of the training is fixed only upon issue of the Training Confirmation Form by Trend.
11. For on-site and special courses there is a minimum order value, regardless of number of attendees. Please check with the Training Manager for details.
12. There may be a minimum number of attendees required per course. Trend reserves the right to cancel courses, without compensation where there is insufficient demand. Alternative dates will be offered if possible.

Trend Training Terms and Conditions

13. Unless agreed otherwise in writing, payment in full is required at least one week in advance of course start date.
14. Force Majeure. Trend accepts no liability of any nature whatsoever (including, without limitation, transport or accommodation expenses) for courses cancelled or disrupted for reasons beyond our control. In these circumstances any payment made in advance will be refunded in full.
15. The course attendees are responsible for all travel and personal accommodation costs incurred.
16. The attendee must inform Trend of any special needs that may affect access or course attendance in anyway, at least one week before the course start date.
17. Trend is a professional training organisation and every care is made in the preparation of training material. However, Trend accepts no liability whatsoever for accidental omissions or inaccuracies.
18. These terms and conditions are governed by English law.

Author: Training Manager

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Horsham, West Sussex.