



# 2018 Training Catalog

Issue 1.0

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# Unidrive M100-400

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Order Code	EDU-UNIM1-ILT2000
Level	Basic
Duration	1.5 Days
Cost	\$681 per person (List Price*)
Prerequisites	<ul style="list-style-type: none"><li>• Familiarity with AC Drives</li><li>• Basic knowledge of common Industrial Controls</li><li>• Basic Computer Skills</li></ul>



## Course Objectives

This course is designed to introduce the attendee to our Unidrive M100-400 family of Open Loop AC drives. This course is suitable for people who will be designing new applications and maintaining existing installations.

This course is also available to be held at your facility. If you would like a quotation for a custom training course, please send an email to [training.cta@mail.nidec.com](mailto:training.cta@mail.nidec.com)

## Course Content

- Unidrive M100-400 Product Line Overview
- Mechanical Installation
- Electrical Installation
- Drive Menus and Parameters
- Drive Commissioning Using the Keypad
- Using Unidrive MConnect Software
- Drive Maintenance Skills

The course is equally split between instructor guided theories and 'hands on' practical work allowing attendees to simulate plant behavior in a safe environment. Attendees will learn how to perform basic AC drive commissioning including how to perform an Autotune.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must also be able to install software onto their computers.

## Required Software

Please visit the *Downloads/Software* section of our website to download:

- Connect Software Bundle
- CTUSB cable driver

\* See Registration section for more information.

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# Unidrive M700/ Machine Control Studio Basic

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Order Code	EDU-UNIM7-ILT2000
Level	Intermediate
Duration	2.5 Days
Cost	\$910 per person (List Price*)
Prerequisites	<ul style="list-style-type: none"><li>• Familiarity with AC Drives</li><li>• Basic knowledge of common Industrial Controls</li><li>• Basic Computer Skills</li><li>• Fundamental Servo System Skills</li></ul>



## Course Objectives

This course is designed to introduce the attendee to our Unidrive M700 high performance AC drive. The course material is designed to provide the attendee with a working understanding of the drive, its operation and features including an introduction to the use of our PLC programming software- Machine Control Studio. This is an intermediate level course and is suitable for people who will be designing new applications.

This course is also available to be held at your facility. If you would like a quotation for a custom training course, please send an email to [training.cta@mail.nidec.com](mailto:training.cta@mail.nidec.com)

## Course Content

- Overview of the Unidrive M700 Drive Family
- Unidrive M Menus and Parameters
- Using MConnect Drive Configuration Software
- Introduction to Machine Control Studio Software for the Onboard Target
- Advanced Motion Controller (AMC) basics including examples
- Introduction to our RTMOE drive to drive networking protocol
- Cyclic Link Examples

The course is equally split between instructor lecture and 'hands on' practical work allowing attendees to simulate plant behavior in a safe environment.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must also be able to install software onto their computers.

## Required Software

Please visit the *Downloads/Software* section of our website to download:

- Connect Software Bundle
- Machine Control Studio

\* See Registration section for more information.

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# MCi200 Controller Machine Control Studio Advanced

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Order Code	EDU-MCi200-ILT2000
Level	Advanced
Duration	4 Days
Cost	\$1818 per person (List Price*)
Prerequisites	<ul style="list-style-type: none"><li>• <u>Completion of the Unidrive M700/MCS Basic course</u></li></ul>



## Course Objectives

This is the advanced programming course for our Machine Control Studio (powered by CoDeSys) drive control software. The course material is designed to provide the attendee with a better understanding of the features and use of this software as it is applied to the MCI-200 family of Machine Control Modules. This is an advanced level course and it requires successful completion of the Unidrive M700/MCS Basic course. This course is suitable for Application Engineers.

## Course Content

- Review of the MCI-2xx family of Machine Control Modules
- Configuring MCS software projects
- POU usage
- Review of supported PLC programming languages
- Creating Functions and Function Blocks
- Creating and using Libraries
- Using the graphical RTMOE Cyclic Link Editor
- Using MCS software to perform Motion Control

The course is equally split between instructor lecture and 'hands on' practical work allowing attendees to simulate plant behavior in a safe environment.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must also be able to install software onto their computers.

## Required Software

Please visit the *Downloads/Software* section of our website to download:

- Connect Software Bundle
- Machine Control Studio

\* See Registration section for more information.

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# Digitax ST Drives for Motion Control

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Order Code	EDU-DIGTAX-ILT2000
Level	Intermediate
Duration	2 Days
Cost	\$909 per person (List Price*)
Prerequisites	<ul style="list-style-type: none"><li>• Basic knowledge of common Industrial Controls</li><li>• Familiarity with common Motion Control terms and functions</li></ul>



## Course Objectives

This course will focus on the integration of our Digitax ST servo drive into 3 different types of Motion Control Systems:

- Using the Digitax ST in preparation for use with an external Motion Controller such as a Trio Motion Controller
- Using the Digitax ST with the SM-EZMotion module and PowerTools Pro software
- Using the Digitax ST with the SM-EtherCat module

## Course Content

- Digitax ST drive hardware and wiring
- Basic drive commissioning using CTSOft software
- Basic Servo Motor tuning using CTScope software
- Using the SM-EZMotion module and PowerTools Pro software
- EtherCat demonstration using the SM-EtherCat module with a Trio EtherCat master

The course is equally split between instructor lecture and 'hands on' practical work allowing attendees to simulate plant behavior in a safe environment. While EtherCat technology will be demonstrated, the focus will not be on the EtherCat master. Rather, the attendee will learn what needs to be done to integrate the SM-EtherCat module into an EtherCat control environment.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must also be able to install software onto their computers.

## Required Software

Please visit the *Downloads/Software* section of our website to download:

- CTSOft software
- CTScope software
- CTUSB cable driver
- PowerTools Pro software

\* See Registration section for more information.

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# Unidrive SP Applications

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Order Code	EDU-REM1DY-ILT2000
Level	Basic
Duration	2 Days
Cost	\$2,880.00 plus expenses
Prerequisites	<ul style="list-style-type: none"><li>• Familiarity with AC Drives</li><li>• Basic knowledge of common Industrial Controls</li><li>• Basic Computer Skills</li></ul>



## Course Schedule

This course is available to be held at your facility only. This is a 2 day course, and class size is limited to 8 people per session. To receive a quotation, please send an email to [training.cta@mail.nidec.com](mailto:training.cta@mail.nidec.com)

## Course Objectives

This course is designed to introduce the attendee to our Unidrive SP family of AC drives. The course material is designed to provide the attendee with a working understanding of the drive, its operation and features. It is suitable for people who will be maintaining an existing applications.

## Course Content

- Overview of the Unidrive SP Product Family
- Installation Techniques
- Unidrive SP Menus and Parameters
- Keypad Usage
- Using the SmartCard
- CTSOft Software
- CTScope Software
- Using the SM-Ethernet Module
- Drive Diagnostics and Troubleshooting

The course is equally split between instructor lecture and 'hands on' practical work allowing attendees to simulate plant behavior in a safe environment. Each 2 attendees will share a training simulator.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must also be able to install software onto their computers.

## Required Software

Please visit the *Downloads/Software* section of our website to download:

- CTSOft software
- CTScope software
- CTUSB Cable driver
- Winflasher software

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## Quantum/Mentor MP DC Drives

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Order Code	EDU-DCMMP-ILT2000
Level	Basic
Duration	2 Days
Cost	\$909 per person (List Price*)
Prerequisites	<ul style="list-style-type: none"><li>• Familiarity with DC Drives</li><li>• Basic knowledge of common Industrial Controls</li><li>• Basic Computer Skills</li></ul>



### Course Objectives

This course features our Mentor and Quantum MP Digital DC Drive family with concentration on the basics of operating, start-up, troubleshooting, and diagnostics. The attendee will gain an understanding of the drive's menu structure as well as becoming familiar with the CTSOft drive configuration tool. The course is suitable for people who will be designing new applications as well as maintaining existing installations.

**NOTE:** This class may only be conducted in our Eden Prairie, MN corporate headquarters. **Class size is limited to 6 people.**

### Course Content

- Overview of the Mentor MP including ratings, part numbers, connections and parameter entry ..
- Mentor MP commissioning using the keypad
- Mentor MP commissioning using CTSOft software
- Diagnostics and Trip Codes
- FXMP25 Optional Field regulator , features and benefits
- Quantum MP, differences from Mentor MP
- Mentor II transition to MP wizard
- CTSOft and Smartcard back up

The course is equally split between instructor guided theories and 'hands on' practical work allowing attendees to simulate plant behavior in a safe environment. Each 2 attendees will share a training simulator.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must be able to install software onto the computer as well.

### Required Software

Please visit the *Downloads/Software* section of our website to download:

- CTSOft software
- CTScope software
- CTUSB Cable driver

\* See Registration section for more information.



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# CT Solutions Workshop: Si-Rotary Knife

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Order Code	EDU-SOLKNI-ILT2000
Level	Intermediate
Duration	2 Days
Cost	\$909 per person (List Price*)
Prerequisites	<ul style="list-style-type: none"><li>• Familiarity with Servo Applications</li><li>• Knowledge of common Industrial Controls</li><li>• <i>Completion of the EDU-UNIM7-ILT2000 course</i></li></ul>

## Workshop Objectives

This hands on workshop will focus on the use of our Si-Rotary Knife solutions module. The attendee will be given a “guided tour” of the setup and use of this module as defined by the Si-Rotary Knife Solution manual.

The focus of the workshop will be the use of our Rotary Knife demonstration machine. This is a functioning piece of demonstration equipment and due to the fact that there is only 1 of these machines, class size is limited to no more than 6 people.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must also be able to install software onto their computers.

## Required Software

Please visit the *Downloads/Software* section of our website to download:

- Connect Software Bundle

\* See Registration section for more information.

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# CT Solutions Workshop: Si-Flying Shear

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Order Code	EDU-SOLFLY-ILT2000
Level	Intermediate
Duration	2 Days
Cost	\$909 per person (List Price*)
Prerequisites	<ul style="list-style-type: none"><li>• Familiarity with Servo Applications</li><li>• Knowledge of common Industrial Controls</li><li>• <i>Completion of the EDU-UNIM7-ILT2000 course</i></li></ul>

## Workshop Objectives

This hands on workshop will focus on the use of our Si-Flying Shear solutions module. The attendee will be given a “guided tour” of the setup and use of this module as defined by the Si-Flying Shear Solution manual.

The focus of the workshop will be the use of our Flying Shear demonstration machine. This is a functioning piece of demonstration equipment and due to the fact that there is only 1 of these machines, class size is limited to no more than 6 people.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must also be able to install software onto their computers.

## Required Software

Please visit the *Downloads/Software* section of our website to download:

- Connect Software Bundle

\* See Registration section for more information.

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## CT Solutions Workshop: Si-Winder

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Order Code	EDU-SOLWND-ILT2000
Level	Intermediate
Duration	2 Days
Cost	\$909 per person (List Price*)
Prerequisites	<ul style="list-style-type: none"><li>• Familiarity with Servo Applications</li><li>• Knowledge of common Industrial Controls</li><li>• <i>Completion of the EDU-UNIM7-ILT2000 course</i></li></ul>

### Workshop Objectives

This hands on workshop will focus on the use of our Si-Winder solutions module. The attendee will be given a “guided tour” of the setup and use of this module as defined by the Si-Winder Solution manual.

The focus of the workshop will be the use of our 5 axis Winder demonstration machine. This is a functioning piece of demonstration equipment and due to the fact that there is only 1 of these machines, class size is limited to no more than 6 people.

Please note that attendees are expected to supply their own computers for use during the course. The attendee must also be able to install software onto their computers.

### Required Software

Please visit the *Downloads/Software* section of our website to download:

- Connect Software Bundle

\* See Registration section for more information.

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# The Learning Center

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## Webinars

Each month, we will be conducting eLearning webinars that cover topics such as:

- Unidrive M700
- Advanced Motion Controller
- SI Option Modules
- Drive Networking
- Drive and Motor Sizing

If you have a suggestion for a webinar topic, please submit it via email by sending your suggestion to [training.cta@mail.nidec.com](mailto:training.cta@mail.nidec.com)

## Webinar Invitation List

If you would like to have your name added to the webinar invitation list, please send an email to [training.cta@mail.nidec.com](mailto:training.cta@mail.nidec.com)

## Webinar Recordings

Recordings of eLearning Webinars will be posted to our Learning Center. Click here to visit the Learning Center.

## YouTube® Videos

In addition to recorded Webinars, the Learning Center also has a complete library of “Quick Start” videos that cover a wide variety of our products and software.

Click [here](#) to visit the Learning Center.

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# Maintenance Training

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## Maintenance Training at Your Facility

In order to keep your lines running, and to ensure that your key support personnel are kept onsite, we offer our customers Maintenance and Troubleshooting courses that may be held in their own facility.

These courses are taught by our network of highly trained Regional Field Service Engineers and they utilize your own applications and equipment as the basis for the training. The courses are informal and designed to assist Maintenance Technicians with the fundamental skills required to keep your lines running.

## To Schedule a Class

If you are interested in arranging for one of these courses, please call **952-995-8000** and ask for the Field Service Manager.

Normal Field Service rates apply.

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## Registration Information

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All Training courses that are held in our Eden Prairie, MN facility are free of charge to anyone who wishes to attend. However, a Purchase Order is required in order to reserve a seat in class.

The amount of the Purchase Order is based upon your discount multiplier for our “PP” (Peripheral) products. If you are an authorized distributor of our products, your discount multiplier may be found in your Control Techniques pricelist. If you are an end user, your discount multiplier is .85.

List prices for our training courses are shown below. For example, if your discount multiplier is .85 and you wish to attend our EDU-UNIM1-ILT2000 class, please submit your PO in the amount of  $.85 \times \$681$  or \$578.85 per each person registering.

### 2018 Course Tuition Fees

Order Code	Title	List Price
EDU-UNIM1-ILT2000	Unidrive M100-400 Open Loop Drives Training	\$681.00
EDU-UNIM7-ILT2000	Unidrive M700/Intro to Machine Control Studio	\$910.00
EDU-ADVM7-ILT2000	Machine Control Studio Software Advanced	\$1,818.00
EDU-DIGTAX-ILT2000	Digitax For Motion Control	\$909.00
EDU-DCMMP-ILT2000	Quantum MP/Mentor MP DC Drives Training	\$909.00
EDU-MCZBAS-ILT2000	Introduction to the Industrial PC	\$909.00
EDU-MCZADV-ILT2000	Industrial PC Application Training	\$1,363.00
EDU-SOLKNI-ILT2000	CT Solutions Workshop- Rotary Knife	\$909.00
EDU-SOLWND-ILT2000	CT Solutions Workshop- Winder	\$909.00
EDU-SOLFLY-ILT2000	CT Solutions Workshop- Flying Shear	\$909.00

Please download and complete a Training Registration form for each person who wishes to attend a course.

Your Purchase Order will be credited upon completion of the class for which it was submitted. Purchase Orders submitted by attendees who have reserved a seat in class and failed to attend the class for which they'd registered for without providing a minimum of 2 weeks' notice will be invoiced for the amount of the registration Purchase Order.

### Course Cancellation Policy

Control Techniques reserves the right to cancel any training course for lack of minimum participation. Control Techniques will not be held liable for any non-refundable travel arrangements. For that reason, we strongly urge you to consider not making any non-refundable travel plans until you have received an email confirming the status of the course for which you've registered.