

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

Variable Speed Drives and Motors

5 days | Classroom training | English

SMART HORIZON

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Course content

Why attend

Electric motors and variable speed drives power most industrial equipment and offer major energy savings. This course covers motor types and characteristics, motor selection, variable speed drive principles, drive configuration, harmonics, energy savings, maintenance, troubleshooting and motor failure analysis.

Motors consume most industrial electricity. You will learn to apply and maintain drives and motors for reliability and efficiency.

Professional Problems This Course Is Designed to Solve

- Difficulty translating subject knowledge into practical workplace decisions.
- Inconsistent approaches to the activities covered in the course outline.
- Lack of a structured plan for applying and reviewing new skills.

Course methodology

Drive configuration demonstrations, energy calculations, troubleshooting cases and maintenance planning.

Course objectives

By the end of this course, participants will be able to:
- Explain motor types and performance characteristics
- Select motors for applications
- Understand variable speed drive principles
- Configure and commission drives
- Manage harmonics and power quality
- Maintain and troubleshoot motors and drives

Target audience

This course is suitable for:
- Electrical engineers and technicians
- Maintenance engineers
- Energy managers
- Automation technicians
- Plant engineers



Course content

Target competencies

Participants will develop competencies in:

- Motor selection
- Drive configuration
- Energy calculation
- Power quality
- Troubleshooting

Course outline

Day 1: Electric Motors

09:00–10:08	Induction motors
10:08–11:00	Efficiency classes
11:00–11:30	**Coffee break**
11:30–11:45	Efficiency classes (continued)
11:45–12:53	Selection
12:53–14:00	Exercise

Day 2: Drive Principles

09:00–10:08	How drives work
10:08–11:00	Control modes
11:00–11:30	**Coffee break**
11:30–11:45	Control modes (continued)
11:45–12:53	Applications
12:53–14:00	Demonstration

Day 3: Configuration

09:00–10:08	Parameters
10:08–11:00	Commissioning
11:00–11:30	**Coffee break**



Course content

11:30–11:45	Commissioning (continued)
11:45–12:53	Protection
12:53–14:00	Exercise

Day 4: Power Quality and Energy

09:00–10:08	Harmonics
10:08–11:00	Filters
11:00–11:30	**Coffee break**
11:30–11:45	Filters (continued)
11:45–12:53	Energy savings
12:53–14:00	Case study

Day 5: Maintenance and Troubleshooting

09:00–10:08	Motor testing
10:08–11:00	Drive faults
11:00–11:30	**Coffee break**
11:30–11:45	Drive faults (continued)
11:45–12:53	Failure analysis
12:53–14:00	Action plan

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the sessions. They are indicative only and do not constitute a binding commitment.



Course content

Dates, venues and fees

Current published course plans. Fees are per participant in GBP, excluding unconfirmed taxes.

Venue	Start date	End date	Fee (GBP)
Dubai Confirmed dates	23 Nov 2026	27 Nov 2026	**£6,300.–**
Online Confirmed dates	23 Nov 2026	27 Nov 2026	**£1,250.–**
Barcelona Confirmed dates	7 Dec 2026	11 Dec 2026	**£5,680.–**
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**£1,250.–**
Frankfurt Confirmed dates	11 Jan 2027	15 Jan 2027	**£5,300.–**
Online Confirmed dates	11 Jan 2027	15 Jan 2027	**£1,250.–**
Vienna Confirmed dates	1 Feb 2027	5 Feb 2027	**£5,880.–**
Online Confirmed dates	1 Feb 2027	5 Feb 2027	**£1,250.–**
Rome Confirmed dates	22 Feb 2027	26 Feb 2027	**£4,900.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Online Confirmed dates	22 Feb 2027	26 Feb 2027	**£1,250.–**
Vienna Confirmed dates	15 Mar 2027	19 Mar 2027	**£5,880.–**
Online Confirmed dates	15 Mar 2027	19 Mar 2027	**£1,250.–**
Rome Confirmed dates	29 Mar 2027	2 Apr 2027	**£4,900.–**
Online Confirmed dates	29 Mar 2027	2 Apr 2027	**£1,250.–**
Cape Town Confirmed dates	19 Apr 2027	23 Apr 2027	**£3,780.–**
Online Confirmed dates	19 Apr 2027	23 Apr 2027	**£1,250.–**
Paris Confirmed dates	10 May 2027	14 May 2027	**£5,720.–**
Online Confirmed dates	10 May 2027	14 May 2027	**£1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Istanbul Confirmed dates	31 May 2027	4 Jun 2027	**£5,300.-**
Online Confirmed dates	31 May 2027	4 Jun 2027	**£1,250.-**
Cape Town Confirmed dates	21 Jun 2027	25 Jun 2027	**£3,780.-**
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**£1,250.-**
Dubai Confirmed dates	5 Jul 2027	9 Jul 2027	**£6,300.-**
Online Confirmed dates	5 Jul 2027	9 Jul 2027	**£1,250.-**
Kuala Lumpur Confirmed dates	26 Jul 2027	30 Jul 2027	**£2,900.-**
Online Confirmed dates	26 Jul 2027	30 Jul 2027	**£1,250.-**
London Confirmed dates	16 Aug 2027	20 Aug 2027	**£4,900.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Online Confirmed dates	16 Aug 2027	20 Aug 2027	**£1,250.-**
Amsterdam Confirmed dates	6 Sept 2027	10 Sept 2027	**£5,080.-**
Online Confirmed dates	6 Sept 2027	10 Sept 2027	**£1,250.-**
Barcelona Confirmed dates	27 Sept 2027	1 Oct 2027	**£5,680.-**
Online Confirmed dates	27 Sept 2027	1 Oct 2027	**£1,250.-**
Rome Confirmed dates	11 Oct 2027	15 Oct 2027	**£4,900.-**
Online Confirmed dates	11 Oct 2027	15 Oct 2027	**£1,250.-**
London Confirmed dates	1 Nov 2027	5 Nov 2027	**£4,900.-**
Online Confirmed dates	1 Nov 2027	5 Nov 2027	**£1,250.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (GBP)
Cape Town Confirmed dates	22 Nov 2027	26 Nov 2027	**£3,780.-**
Online Confirmed dates	22 Nov 2027	26 Nov 2027	**£1,250.-**
Dubai Confirmed dates	13 Dec 2027	17 Dec 2027	**£6,300.-**
Online Confirmed dates	13 Dec 2027	17 Dec 2027	**£1,250.-**

Plan your next step

Dates, availability, exact venue, taxes, inclusions and payment terms require written confirmation. This brochure is not a quotation, registration, booking confirmation or visa invitation. Participants receive a Smart Horizon UK certificate of attendance; programmes are not externally accredited and do not award a professional qualification or designation. Confirm arrangements before booking travel.

For group or in-house training, contact our learning team to discuss your objectives and delivery arrangements.

Contact Smart Horizon

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View the latest course details online