INTACS training

Training Course Guide

Industrial Controls & Automation Training

On-line PLC & Electrical Assessments

On-line Siemens S7-1200/1500, S7-300/400 & Allen Bradley ControlLogix & SLC500 & Mitsubishi FX, Q & A Series PLC Skills Assessments

In addition to our Industrial Electrics On-line Skills Assessments, INTACS have launched new Siemens & Allen Bradley Skills Assessments which you can use as an Interview Tool or simply to assess whether you have a Training Need within your own team.

Please ask for further details.

Year 2024

SCAN ME

Version 1.3

PLCs, Drives, Motion Control, HMI & SCADA, Electrical Multi-skilling, Electrical Health & Safety, 18th Edition, Mechanical, Process Instrumentation

Please check availability of course places before making any site arrangements

INTACS training courses

Working really closely with leading equipment manufacturers

INTACS continues to work with brand leaders Bosch Rexroth, Festo & Pilz.

2024 is our 35th year as a specialist industrial controls training provider. INTACS continues to work with & support leading brand names in industry for the benefit of our clients.

For some PLC & Drives manufacturers, we conduct a significant amount of training on their behalf with open courses & bespoke training programmes, both of which can run cost-effectively on client sites if required with groups as small as only 3 or 4 delegates.

Making it WORK – has been a major focus **for us over the last 10 years**. We help you & your people understand the key knowledge & skills needed "to get the job done" & we give you the tools to help keep the knowledge & skills sharp.

Many of you know about our **Money Back Guarantee of Satisfaction**. This is our commitment to demonstrate to clients that they can rely on us to deliver the results they need.

Pilz now feature INTACS' courses in their Training Guide & Harting are also backing INTACS' courses

Bosch, Rexroth & Indramat are brands famous world-wide for excellence in Motion Control & Hydraulics. Not only is INTACS pleased to be awarded this prestigious title but established Bosch Rexroth clients will be able to benefit from the wide range of INTACS' courses through their regular Bosch Rexroth contact.
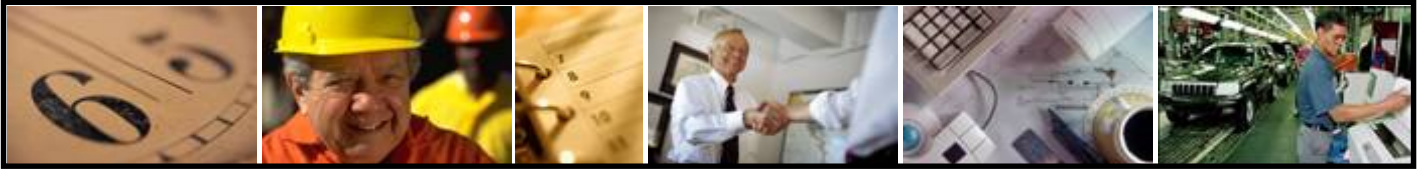
A recommendation from **FESTO** – a top brand name you can trust.

As you will also know, **FESTO** is the leading supplier of Pneumatic solutions world-wide - another brand name in the industry that you can trust. FESTO have demonstrated their confidence in INTACS & for the sixth year running continue to recommend our PLC, Electrical Multi-skilling, Electrical Safety & 18th Edition courses to industry.

All fees quoted are exclusive of VAT.

INTACS training courses

CONTENTS

INTACS training courses

The real Customer BENEFITS

Our training programmes are designed to look after you & your people & to give you confidence at every stage.

Before the training

Many manufacturer-approved courses
Because we work so closely with a number of leading PLC & Drives companies, many of our courses are manufacturer-approved.

PLC Program Analysis
To make the training even more valuable for your people, we'll even build into the course coverage of your own site PLC software.

On-site courses
Choose between courses scheduled regularly in our Training Centre or, with a minimum of 3-4 delegates who can attend together, have the course on-site.

Accommodation & Training package
For your convenience, we are able to book B&B accommodation for you & add the cost to the training fees; a choice of hotel is available to suit most needs.

Training Needs Analysis (TNA)
Where you have people with differing backgrounds & abilities, we are able to help you identify individual strengths & weaknesses & to plan the most cost-effective training solution.

Training Vouchers
To ensure that you do not lose your end of year training money, we offer Training Vouchers, which can be used for either scheduled or on-site training throughout the coming year.

Customised courses
To get maximum value from the training, if you can release a minimum of 3-4 delegates who can attend at the same time, we can customise a course to match the needs of your people with the equipment you have on-site.

During the training

Training Record Log
Our Training Record Log highlights the essential knowledge & key practical skills covered on the course & both delegates & the instructor sign-off topics to confirm understanding.

Key Competencies
The majority of INTACS' mainstream courses are now designed around core Key Competencies. These are the milestones or absolute essentials i.e. key knowledge that must be understood & skills to be mastered. This structure makes it much easier for people to retain knowledge & skill over extended periods when the opportunity for practice is limited.

Small class sizes
Until you've been on a manufacturer's course in a group of up to 12 - 16, you probably won't appreciate the benefits of our small groups of 4 - 8 delegates.

Pocket Reference Guides
Many of our courses include an invaluable Pocket Guide packed full of useful tips & techniques, important memory joggers & key sequences.

Practical hands-on
Our courses focus on the real needs that shop-floor maintenance people have & as such are predominantly practical concentrating on basic maintenance & troubleshooting skills.

After the training

Guarantee of Satisfaction
We are so confident we can deliver the right training for your people that we're even prepared to offer a money-back guarantee of satisfaction.

Refresher Training days
Refresher Training days are arranged on demand to provide that short 1 day "shot in the arm" treatment to bring your people back up to speed to refresh skills. There is a small charge & dates are provided as needed.

Practical Fault-finding Models
Following training, it is important that people have the opportunity to practice basic skills & maintain the edge when troubleshooting. Check out our PLC-based Training Models with optional Fault-finding Packs.

Problems with retaining staff?
We offer a scheme where if the person we train for you leaves within 12 months & you hire a replacement, our Training PLUS scheme will save having to pay full course fees again.

Managed Competency Scheme
We all know that "if you don't use it you'll lose it". Because PLCs are pretty reliable, many people lose familiarity through lack of practice. Extend the benefit of the training course from the classroom out into the workplace to consolidate the learning, relating to site systems & procedures with external monitoring & feedback.

Training WORKS
Another tool to ensure that you & your company benefit from the training investment being made. Training WORKS provides the key to help people understand & implement the new knowledge & skills gained on our Electrical Multiskilling course & record the evidence for future reference & certification.

INTACS training courses

Training for Industry

As in previous years, INTACS plans to continue offering the highest level of training support that many clients have come to know us for "*as standard*".

Focus for 2024 continues – COMPETENCY is what companies want
Whilst achieving competency with the key practical skills needed in the workplace has always been a principle feature of our PLC, Automation & Electrical courses, we've been working hard at providing companies with the essential documentation to record the evidence of the training completed & specific competencies proven.

It's important for all to fully understand the capabilities of maintenance personnel in the workplace so that they, their colleagues & production are not exposed to unnecessary & avoidable risk.

Having the right training is important, having the right documentation to back it up & flag any necessary re-assessment dates is key to keeping knowledge & skills up to date & keeping people & the workplace safe.

Spreading the cost of your company's Training
It seems to be the case that more & more companies are now having to look for alternative ways to fund their training plans. Some companies are having to fund training from the monthly maintenance budget. INTACS can help by spreading the cost of a number of courses over a 12 or 24 month plan to avoid "the big hit" of having to pay for a course or series of courses out of just one month's budget.

Skills Assessments
One of the many problems facing Managers in industry today, when considering training, is COMPETENCE. Competence is about having the knowledge & skills to do the job. The problem is, outside of a very "subjective opinion" about whether a person can or can't, whether the person does or doesn't, is or isn't, it can be very difficult to be sure about whether there is a training requirement or not &, if so, exactly what it is.

End of Year (EOY) & Discounted Training Vouchers
Training Vouchers are available & can be used in TWO WAYS.

EOY Training Vouchers. If you have training budget left that you do not want to lose, buy our Training Vouchers (in multiples of £100) which can then be used towards the cost of our PLC or Electrical courses & valid for a further 12 months.

Discounted Training Vouchers. If you have a large training requirement that we can help with or if you want to allocate your funding to protect against losing your training budget, purchase our Discounted Training Vouchers & (for example) save up to 24% against our normal fees. These Vouchers can also be used towards the cost of customised or on-site training.

Follow-On Work
Most of INTACS' mainstream courses are now backed up with Follow-On work which is completed back at the workplace. The Follow-On is intended to help consolidate the work done in class & provide additional practical experience but also helps relate the learning to the specifics of the delegate's own site.

INTACS training courses

PLC First-line Practical Skills (FLPS) courses

Focus on KEY PRACTICAL SKILLS: Level 1 First-line Practical Skills (FLPS)
Our Level 1 FLPS courses have been further enhanced to provide a "less technical, more practical" learning environment which more closely matches the requirements of the shop floor. These courses are about building rock-solid competence, working on a range of practical models & tackling the bulk of common, everyday maintenance & troubleshooting tasks.

The learning is presented in a way which much more closely resembles the requirements of the shop floor where delegates themselves **know what needs to be done & can anticipate the next step** i.e. what they need to be able to do, **the course just shows them HOW & gives loads of practice.**

The learning is structured around the use of practical training rigs & focuses on The TOP20 Key Skills.

With these new-style courses, our mission is to **"Build Competence through Confidence".**

The TOP 20 Key Practical Skills

Typical topics include (the Top 20):

1. Understand common PLC Hardware for the particular PLC
2. Understand key physical diagnostic indicators
3. Know how to connect a laptop – cables, connections & comm ports
4. Know how to run the PLC monitoring software
5. Know how to prove PC – PLC comms.
6. Know how to identify the correct backup program on the laptop
7. Know how to Retrieve a Project if required
8. Know how to get on-line
9. Know how to Compare a program with a backup copy
10. Know how to recognise & understand first-level PLC Instruction Set
11. Know how to monitor live Ladder status & compare with actual field I/O
12. Know how to search & get around the program
13. Know how to back-up the program
14. Know how to re-load the program
15. Know how to start to troubleshoot machine faults through the PLC
16. Know how to use the Cross Reference function
17. Know how to set up & view status tables as a monitoring tool
18. Know how to start to use the diagnostic toolkit
19. Know how to use available reset or restart functions
20. Know how to identify suspect or faulty modules & safely replace

Building Confidence

Because the FLPS courses are about building confidence & then growing the understanding & skills from a solid base, it is always surprising how many people rise to the challenge when given the opportunity. Over the last 4 years we've been running the FLPS courses & we've seen it many times.

For a great many maintenance people, the previous generation Level 1 M&T courses just pushed on & wheeled out some of the more abstract & obscure material too soon rather than first of all building that "rock-solid" confidence with the key skills that people thought they were coming to learn about in the first place. Quite often, this is the very thing that "spoils the party" & too many maintenance people get bogged down & struggle to understand things which are not necessarily key.

Benefits of knowing a bit more, do I need the Level 2?

Not always is the honest answer. However, almost always, there's a lot more to know. It depends on the complexity of your hardware installation, the complexity of the machine or process & the complexity of the PLC software.

Where systems have got networked I/O or devices which are key to the machine or process operating properly (e.g. Inverter or Servo Drives to control movement, HMIs which are used to enter operational parameters or to provide a Start signal), there is very likely to be a training requirement.

But, companies ought to have people who can tackle less-obvious problems & know a bit more about the particular PLC system as not every task or problem will work out to be straight forward. Knowing a bit more about those "techy bits" can get users out of trouble & save companies from a lot of downtime, lost production, wasted product & expensive service call-out costs. However, the "techy bits" can only be mastered by building on solid foundation knowledge.

Some PLCs are a lot less user-friendly (or more powerful) or both!

Don't forget, some PLCs are notoriously more difficult to work with & this means that progress on a course can be slower. Combine this with the fact that some PLCs are very powerful devices with loads more functionality "under the bonnet" & this can may mean site PLC programs much more difficult to understand & follow.

Also, PLC software engineers are often expected to get "a quart into a pint pot" regarding developing control systems & software to keep hardware costs down & often have to write "clever" PLC program code to achieve a desired outcome. Of course, this can mean that the program code is more difficult to understand & follow & this can lead to the need for a higher level of training.

Our Level 2 courses are only offered where we believe there is a real need. Level 2 courses not only cover the majority of the higher level functionality that is often used when writing PLC code for an application but we also cover the common Networking options that are commonly used with the particular PLC system (may include MPI, Profibus, Profinet, Interbus, Industrial Ethernet, DeviceNet, ControlNet, DH+, DH485, RIO, ASi & ASi Safe).

PLC Training Models

Making it Work back on-site
We all know that the key to successfully mastering what we learn on a course is to put the skills into practice as soon as possible & have a plan to keep them live.

Most often people attend PLC & Electrical courses in preparation for the day on-site when that knowledge & skill will be required, often in a breakdown situation. The problem is, if the knowledge & skills have not been kept live, people "go rusty", confidence slips & people are unsure.

PLC Training Models
To help companies & their people build on the knowledge & skills gained through training, we offer a range of Practical Training Models. People can practice the majority of the Key Practical Skills, in a safe environment away from any dangers of working on live plant & so build confidence & skill.

Learning Support Packs (LSPs)
It is possible to just purchase just the Training Model hardware & get your own people to write the PLC software or, if your people are not expected to write PLC software as part of their job (as is usually the case for maintenance people), it is possible to add one or more of the LSPs, which best suit the needs of your people, & get them underway without delay.

Workbooks to record progress
Each LSP is supported by an electronic Workbook allowing people to structure their thinking when tackling the work & to record the evidence of what they achieve. The Workbooks assume the user will have had at least basic level training on the particular PLC.

THREE different LSPs are available
Getting Started – for less confident or experienced users
Fault-finding Skills – to practice PLC Fault-finding
Programming Skills – where people are required to undertake small program modifications to improve machine performance or as a temporary workaround

INTACS training courses
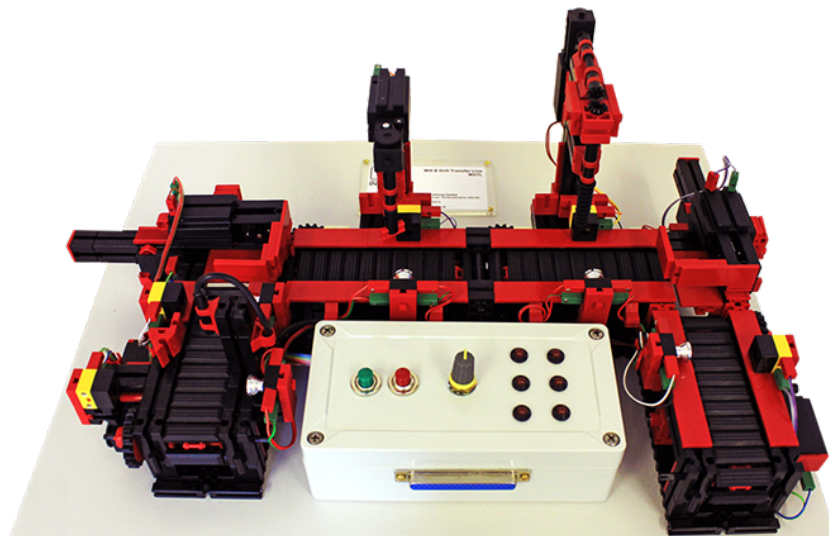
Allen Bradley/Rockwell training courses for 2024

Popular Level 1 First-line Practical Skills (FLPS)
Our Level 1 FLPS courses have been further enhanced to provide a "less technical, more practical" learning environment which more closely matches the requirements of the shop floor. The course is about building rock-solid competence, working on a range of practical models & tackling the bulk of common, everyday maintenance & troubleshooting tasks. The learning is structured around the use of practical training rigs & focuses on The TOP20 Key Skills. With these new-style courses, our mission is to **"Build Competence through Confidence".**

ControlLogix (inc. CompactLogix) w RSLogix5000 / Studio5000 software

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
ControlLogix PLC Level 1 First-line Practical Skills (FLPS)	*4 days*	£1360		5		15		17		12	30			2
ControlLogix PLC Level 2 M&T	*4 days*	£1460	22		18			10		26		28		
ControlLogix Practical Fault-finding (A course for people who did Level 1 some time ago & through lack of use have lost confidence & "gone rusty")	*3 days*	£1360						*Dates as needed*						

For the Level 1 or Level 2 courses, add the Friday to cover First-line Networking, an Introduction to ControlLogix Motion M&T or to study your own programs – extra day £290 (£1650 in total).

Course type	Duration	Fee												
ControlLogix Programming	*5 days*	£1570						*Dates as needed*						

ControlLogix Motion Control – ULTRA 3000 or Kinetix with SERCOS or Ethernet

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
ControlLogix Motion Control with ULTRA 3000 or Kinetix (for servo novices)	*4 days*	£1620						*Dates as needed*						
ControlLogix Motion Control with ULTRA or Kinetix Servos (for experienced servo users)	*2 days*	£1020						*Dates as needed*						

ControlLogix Motion Control training is available using either SERCOS or Ethernet networking

SLC500 (including MicroLogix) with RSLogix500 software

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
SLC500 Level 1 First-line Practical Skills (FLPS)	*4 days*	£1360	8			2	20		22		23			9
SLC500 Level 2	*4 days*	£1460						*Dates as needed*						

For the Level 1 or Level 2 courses, add the Friday to cover First-line Networking, additional practical fault-finding or to study your own programs – extra day £290 (£1480 in total).

Course type	Duration	Fee												
SLC500 Practical Fault-finding (A course for people who did Level 1 some time ago & through lack of use have lost confidence & "gone rusty")	*3 days*	£1360						*Dates as needed*						

PLC-5 with RSLogix5 software

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
PLC-5 Level 1 M&T	*4 days*	£1360						*Dates as needed*						
PLC-5 Practical Fault-finding	*3 days*	£1360						*Dates as needed*						
PLC-5 Level 2 Troubleshooting Programs	*4 days*	£1460						*Dates as needed*						

New shorter Practical Fault-finding (PFF) courses

In response to customer demand, we have reduced the duration of the PFF courses down to only 3 days so it is easier for companies to release people for the "Practical Refresher". For people who have attended at least a Level 1 Basic M&T course for a particular PLC system (e.g. Siemens S7-300/400, Mitsubishi FX or an Allen Bradley SLC500 or ControlLogix, or indeed any other), sometimes through no fault of their own they do not get the opportunity to work on the PLC system in anger for many months or years after the training.

Where this happens, confidence slips & people become unsure. Working under pressure on fast-moving, high-volume machinery when there is a problem is not the place to "experiment" to see how much you can remember. Our new series of "Practical Fault-finding" courses are designed to put people under some pressure but in a learning environment, working with their own training rigs & tackling a range of practical fault scenarios. People will quickly start to recall an amount of the original learning & this course is about putting it into practice to sharpen-up key knowledge & skills.

Allen Bradley/Rockwell training continued ....

Combined Allen Bradley PLC courses

Combined Allen Bradley PLC courses

You know we've been able to combine first-level PLC-5/SLC 500 courses together into a single 5 day programme for a number of years, well we've now done the same with blending **ANY TWO** out of PLC-5, SLC 500 & ControlLogix.

This means that you can now cover any two of these popular Allen Bradley PLC systems in the same 5 day programme, not only reducing the amount of time your people are away from the workplace but cutting training costs too. It's true we can't cover as much ground as we could by attending the separate 4 day Level 1 Basic M&T courses for each PLC & time spent on practicals has to be cut but you can make up for some of this if you carefully plan how to continue your people's development back on-site making this a real winner for you.

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
SLC500 / PLC-5 Basics	5 days	£1650						Dates as needed						
ControlLogix / PLC-5 Basics	5 days	£1650						Dates as needed						
ControlLogix / SLC500 Basics	5 days	£1650		5		15		17		12	30			2

Allen Bradley PanelView / PanelView PLUS HMI courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
PanelView PLUS HMI M&T (Maintenance, Troubleshooting & Basic Programming)	2 days	£756						Dates as needed						

Allen Bradley RSView 32 SCADA courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
RSView 32 Maintenance & Implementation	3 days	£1020						Dates as needed						

Allen Bradley Networking & Communications courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Working with DeviceNet Networking	1 day	£440												
Working with ControlNet Networking	1 day	£440												
Working with DH+ & DH485 Networking	1 day	£440												
Working with AB Remote I/O (RIO)	1 day	£440						Dates as needed						
Working with Allen Bradley Ethernet	1 day	£440												
Allen Bradley PLCs with Profibus	1 day	£440						Dates as needed						
Allen Bradley PLCs with ASi	1 day	£440						Dates as needed						

Allen Bradley Variable Speed Drives

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Getting Started with Inverters (generic)	1 day	£480						Dates as needed						
PowerFlex 525 VSD	2 days	£780						Dates as needed						
AB PowerFlex 40/400 VSD	2 days	£780						Dates as needed						
AB PowerFlex 70/700/753 VSD	2 days	£820						Dates as needed						
AB PowerFlex 40/400 & 70/700/753 VSD	3 days	£1090						Dates as needed						
AB PowerFlex on DeviceNet	2 days	£820						Dates as needed						
AB B160 Drives on DeviceNet	2 days	£820						Dates as needed						
Allen Bradley 1305 AC Drive	1 day	£440						Dates as needed						

ON-SITE PLC Coaching & Assessment Workshops

Allen Bradley PLC on-site Coaching & Assessment Workshops:

Very often the demands on plant maintenance personnel are regularly pushing the boundaries of what they know & what they can safely remember. Our on-site Coaching Workshops provide the environment & the opportunity for 1–1 tuition or Skills Assessments for people to gain help & focus on the priorities of their own sites, applications & particular problems. Flexible workshop sessions can be arranged with duration to suit your needs from as little as just 1 day. Fees for 1–1 Coaching or Skills Assessments are £890+VAT per day plus Instructor expenses.

INTACS training courses

Siemens training courses for 2024

Level 1 First-line Practical Skills (FLPS)
Our Level 1 FLPS courses have been further enhanced to provide a "less technical, more practical" learning environment which more closely matches the requirements of the shop floor. The course is about building rock-solid competence, working on a range of practical models & tackling the bulk of common, everyday maintenance & troubleshooting tasks. The learning is structured around the use of practical training rigs & focuses on The TOP20 Key Skills. With these new-style courses, our mission is to **"Build Competence through Confidence".**

Siemens S7-1200/1500 PLC courses TIA-Portal STEP7 v12 – v19

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
S7-1200/1500 Level 1 First-line Practical Skills (FLPS)	5 days	£1470	29		11		13		1		16		11	
S7-1200/1500 Level 2 M&T (A more in-depth & higher level Fault-finding course which covers typical but more complex program code & data structures & an Intro to S7-based Networking & Siemens TIA-Portal HMIs)	5 days	£1720		12		22		10		19		21		16
S7-1200/1500 Practical Fault-finding (A course for people who did Level 1 some time ago & through lack of use have lost confidence & "gone rusty")	3 days	£1470	*Dates as needed*											
S7-1200/1500 Programming Skills	5 days	£1570	*Dates as needed*											
Siemens own equivalent 5 day Level 1 course fee is £2540+VAT per person														

Siemens S7-300/400 PLC courses STEP7 Classic (v 5.3, 5.4, 5.5, 5.6, 5.7)

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Siemens S7-300/400 Level 1 First-line Practical Skills (FLPS)	5 days	£1470	22		18		20		8		9		4	
S7-300/400 Level 2 M&T (A more in-depth & higher level Fault-finding course which covers understanding typical but more complex program code & data structures & an Intro to S7-based Networking)	5 days	£1720			4	15			15		2		18	
S7-300/400 Practical Fault-finding (A course for people who did Level 1 some time ago & through lack of use have lost confidence & "gone rusty")	3 days	£1470	*Dates as needed*											
S7-300/400 Programming Skills	5 days	£1570												
Siemens own 5 day Level 1 course fee is £2540+VAT per person														

Siemens S7 or S5 based HMI Operator Panels

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Siemens HMIs with ProTool, WinCC Flex & TIA-Portal WinCC	2 days	£890	*WinCC Flex HMI training on request*											
Siemens TIA-Portal HMI training included in S7-1200/1500 Level 2 course	1.5 days	Inc.	*See Siemens S7-1200/1500 Level 2 course*											

Siemens S7 based Networking & Communications

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Working with Profibus DP & S7	1 or 2 days	£440 or £820	*Dates as needed*											
Working with Ethernet / Profinet & S7	1 day	£440	*Dates as needed*											
Working with ASi Networking & S7	1 day	£440	*Dates as needed*											
Working with Phoenix Interbus & S7	1 day	£610	*Dates as needed*											

Siemens S7 based Safety – NEW

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Working with S7 based ASi Safe	2 days	£860	*Dates as needed*											
Siemens S7-300 Distributed Safety	2 days	£920	*Dates as needed*											
Working with Modular Safety System MSS	2 days	£920	*Dates as needed*											

Siemens S7-200 PLC Basic M&T course with MicroWin software

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
S7-200 Basic M&T	3 days	£990	*Dates as needed*											

INTACS training courses

Siemens training continued ....

Siemens S5 PLC M&T (using STEP5 or Windows software)

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
S5 Level 1 M&T	5 days	£1470	22			15			8		23			9
Siemens S5 Practical Fault-finding	3 days	£1470				*Dates as needed*								
S5 Level 2 M&T	5 days	£1570				*Dates as needed*								

Siemens MicroMaster 420/440 & SINAMICS G110 / G120 Inverters

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Getting Started with Inverters (generic)	1 day	£480				*Dates as needed*								
Siemens Micromaster 420 / 440 VSD M&T	1 day	£480				*Dates as needed*								
Getting Started with Inverters + Siemens Sinamics G110/120 VSD M&T	2 days	£820				*Dates as needed*								
Getting Started with Inverters + Siemens Sinamics G110/120 VSD M&T on Profibus or Profinet	3 days	£1090				*Dates as needed*								

M&T = Maintenance & Troubleshooting

ON-SITE PLC Coaching & Assessment Workshops

Siemens PLC on-site Coaching & Assessment Workshops:
Very often the demands on plant maintenance personnel are regularly pushing the boundaries of what they know & what they can safely remember. Our on-site Coaching Workshops provide the environment & opportunity for 1–1 tuition or Skills Assessments for people to gain help & focus on the priorities of their own sites, applications & particular problems. Flexible workshop sessions can be arranged with duration to suit your needs from as little as just 1 day. Fees for 1–1 Coaching or Skills Assessments are £890+VAT per day plus Instructor expenses.

New shorter Practical Fault-finding (PFF) courses

In response to customer demand, we have reduced the duration of the PFF courses down to only 3 days so it is easier for companies to release people for the "Practical Refresher". For people who have attended at least a Level 1 Basic M&T course for a particular PLC system (e.g. Siemens S7-300/400, Mitsubishi FX or an Allen Bradley SLC500 or ControlLogix, or indeed any other), sometimes through no fault of their own they do not get the opportunity to work on the PLC system in anger for many months or years after the training.

Where this happens, confidence slips & people become unsure. Working under pressure on fast-moving, high-volume machinery when there is a problem is not the place to "experiment" to see how much you can remember. Our new series of "Practical Fault-finding" courses are designed to put people under pressure but in a learning environment, working with their own training rigs & tackling a range of practical fault scenarios. People will quickly start to recall an amount of the original learning & this course is about putting it into practice to sharpen-up key knowledge & skills.

Industrial Electrical On-line Skills Assessments

Siemens & Allen Bradley On-line PLC Skills Assessments

Do you know if your people have the skills to do the job?

Costs (per Skills Assessment discipline)

No. of Assessment Passwords bought:	10	20	30
Setup Fee:	£150+VAT	£150+VAT	£150+VAT
Cost per Assessment:	£40+VAT	£35+VAT	£30+VAT
Marking per Assessment:	£50+VAT	£50+VAT	£50+VAT
Total cost:	£1050+VAT	£1850+VAT	£2550+VAT

Assessments are available in packs of 10, 20 or 30 Assessments.
Assessment Passwords are valid for 12 months.
Assessment results are returned promptly & compiled into a Report highlighting strengths & weaknesses.
Further On-line Assessments will be developed & made available on demand.

Mitsubishi training courses for 2024

Mitsubishi PLC courses with GX-Developer, GX-Works2 or GX-Works3

Level 1 First-line Practical Skills (FLPS)

Our Level 1 FLPS courses have been further enhanced to provide a "less technical, more practical" learning environment which more closely matches the requirements of the shop floor. The course is about building rock-solid competence, working on a range of practical models & tackling the bulk of common, everyday maintenance & troubleshooting tasks. The learning is structured around the use of practical training rigs & focuses on The TOP20 Key Skills. With these new-style courses, our mission is to **"Build Competence through Confidence"**.

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Mitsubishi FX, Q & A Series Level 1 First-line Practical Skills (FLPS)	5 days	£1220		19			13		15		16		18	
Mitsubishi PLC Practical Fault-finding (A course for people who did Level 1 some time ago & through lack of use have lost confidence & "gone rusty")	3 days	£1220					*Dates as needed*							

Unlike some training providers who require people to attend 2 or 3 different courses to cover the mix of Hardware & Software used on-site, our Mitsubishi PLC courses will include coverage of both FX, Q or A Series Hardware as well as the actual Mitsubishi software relevant to those attending & this can include MEDOC, GPP-Win, GX-Developer, GX-Works2 or GX-Works3.

Mitsubishi PLCs Level 2 M&T

Level 2 Mitsubishi PLC M&T training is for maintenance personnel who are familiar with the basics but who need a more in-depth understanding, be able to read & understand typical PLC program code & be able to relate this to the operation & performance of the machine or process.

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Mitsubishi Level 2 M&T	5 days	£1470					*Dates as needed*							

For all Mitsubishi PLC training, GX Developer &/or GX Works 2 software is standard but we will still accommodate MEDOC users

Mitsubishi PLC Programming courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Intro to Mitsubishi PLC Programming using GXWorks 2 / 3 (simple project)	2 days	£710					*Dates as needed*							
Intro to Mitsubishi PLC Programming using GXWorks 2/3 (structured project)	3 days	£1020					*Dates as needed*							

To get the most out of our Mitsubishi PLC Programming courses, attendees must have either attended our Mitsubishi PLC Level 1 course or already have a reasonable working knowledge & experience of Mitsubishi PLCs.

Mitsubishi HMI Panel courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
MAC/ E Series / GOT Series HMIs M&T	2 days	£790					*Dates as needed*							

Mitsubishi Communications & Networking courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Working with & Troubleshooting Mitsubishi PLCs using CCLink	1 day	£660					*Dates as needed*							

Mitsubishi Variable Speed Drives & Motion Control courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Getting Started with Inverters	1 day	£480					*Dates as needed*							
Mitsubishi AC Inverters Maintenance	1 day	£480					*Dates as needed*							
Getting Started with Servo Control	1 day	£520					*Dates as needed*							

OMRON training courses for 2024

Omron PLC courses using CX ONE software

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Omron C / CJM Series PLC First-line M&T	3 days	£995		26			13				19			
C / CJM Series PLC Further Troubleshooting	2 days	£680		29			16				22			

Omron Communications & Networking courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Working with & Troubleshooting Omron PLCs using Controller Link	1 day	£480	Dates as needed											
Working with & Troubleshooting Omron PLCs using DeviceNet	1 day	£480	Dates as needed											
Working with & Troubleshooting Omron PLCs using Ethernet	1 day	£480	Dates as needed											
Working with & Troubleshooting Omron PLCs using Profibus DP	1 day	£480	Dates as needed											

Omron NS & NT HMI courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
OC3 NS Designer	3 days	£910	Dates as needed											
OC4 NT Designer	2 days	£760	Dates as needed											

Omron Drives & Motion courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Getting Started with Inverters	1 day	£480	Dates as needed											
Omron SysDrive Inverter	1 day	£480	Dates as needed											
Getting Started with Servo Control	1 day	£480	Dates as needed											
Omron MC 402 Motion Control	3 days	£1400	Dates as needed											

M&T = Maintenance & Troubleshooting

INTACS training courses

GE training courses for 2024

GE PLC courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
GE Fanuc 90-30 M&T with LogicMaster or VersaPro	4 days	£1180					Dates as needed							
GE PLC M&T with Machine Edition	4 days	£1180					Dates as needed							
GE PLC ME Logic Developer	4 days	£1180					Dates as needed							
GE PAC Systems M&T	4 days	£1880					Dates as needed							

GE SCADA courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Proficy iFIX Fundamentals	4 days	£1660					Dates as needed							
Proficy iFIX Advanced	4 days	£1660					Dates as needed							
Earlier FIX/FIXDMACS versions can be accommodated														
Proficy CIMPLICITY Basic	4 days	£1660					Dates as needed							
Proficy CIMPLICITY Advanced	4 days	£1660					Dates as needed							

M&T = Maintenance & Troubleshooting

Beckhoff training courses for 2024

Of the courses generally available to support end users, many target the needs of OEMs & system builders who are using Beckhoff PLCs to control the machines they build. The needs of maintenance personnel are quite different & focus on Maintenance & Troubleshooting knowledge & skills.

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Beckhoff PLC Basic M&T with TwinCat software	4 days	£1285												
Beckhoff Programming	4 days	£1285					Dates as needed							

M&T = Maintenance & Troubleshooting

Moeller Electric training courses for 2024

Moeller PLC courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Fundamentals of Moeller PS4 PLCs	1 day	£480					Dates as needed							
PS4-150/200/300 & PS416 PLC Level 1 (S40)	2 days	£740					Dates as needed							
PS4-150/200/300 & PS416 PLC Level 2 (S40)	2 days	£740					Dates as needed							
SUCOnet K Networking	2 days	£880					Dates as needed							
PS3/PS4-100 PLC Basics	3 days	£940					Dates as needed							
PS3/PS4-100 PLC M&T (Full Course)	4 days	£1060					Dates as needed							
PS306 PLC Basic	3 days	£940					Dates as needed							
PS306 PLC M&T (Full Course)	4 days	£1060					Dates as needed							
PS316 PLC Basic	3 days	£940					Dates as needed							
PS316 PLC M&T (Full Course)	5 days	£1495					Dates as needed							

M&T = Maintenance & Troubleshooting

Moeller HMI courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
MV4 Operator Interface Panel	2 days	£810					Dates as needed							
MI 4 Operator Interface Panel	2 days	£810					Dates as needed							
A4/A5 Msg. Display & Op. Int. Panels	1 day	£540					Dates as needed							
VTP Touch Panels	2 days	£840					Dates as needed							

Moeller Drives courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
DF4 Frequency Inverter	1 day	£480					Dates as needed							
Moeller OPTIDRIVE	2 days	£860					Dates as needed							

Schneider Electric training courses for 2024

Schneider Electric PLC courses

Modicon TSX courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
TSX 37/57 PLC Level 1 M&T	4 days	£980					Dates as needed							
TSX 07 NANO with PL707	2 days	£590					Dates as needed							
TSX Modicon MAGELIS HMI	2 days	£590					Dates as needed							

Telemecanique courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
PL7-2 for TSX 27, TSX 47-10/20	2 days	£760					Dates as needed							
PL7-2 for TSX 17-10/20	2 days	£760					Dates as needed							
PL7-3 for TSX 47-30/40, TSX 67/87/107	3 days	£930					Dates as needed							

Modicon courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Modicon QUANTUM with MODSOFT	4 days	£1180					Dates as needed							
Modicon 984 Level 1 M&T with MODSOFT	4 days	£1180					Dates as needed							
Modicon 984 Level 1 M&T with PRO-WORX	4 days	£1180					Dates as needed							
Modicon Momentum PLC & Remote I/O	1 day	£480					Dates as needed							
Modicon MICRO with MODSOFT	3 days	£960					Dates as needed							
MODBUS & MODBUS PLUS	1 day	£490					Dates as needed							

Square D course

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
SYMAX 400/600 PLC	3 days	£1080					Dates as needed							

Schneider Drives courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Getting Started with Inverters	1 day	£480					Dates as needed							
Altivar or Lexium VSD	1 day	£480					Dates as needed							
ELAU PacDrive M Basic Service	1 day	£680					Dates as needed							
ELAU PacDrive M Advanced Service	1 day	£720					Dates as needed							
ELAU PacDrive 3 Basic Service	1 day	£680					Dates as needed							
ELAU PacDrive 3 Advanced Service	1 day	£720					Dates as needed							

INTACS training courses

DirectLogic training courses for 2024

Automation Direct courses

DirectLogic (KOYO) PLC courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
DirectLogic PLC & DirectSoft Basics	2 days	£680					*Dates as needed*							
DirectLogic PLC Troubleshooting	1 day	£380					*Dates as needed*							
Understanding DirectLogic Programs	2 days	£680					*Dates as needed*							
Attend full week for £1390 + VAT & save £350														
LAM HMI Configuration Implementation	2 days	£680					*Dates as needed*							

KepWare SCADA

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
KepWare Maintenance	1 day	£480					*Dates as needed*							
KepWare Implementation	3 days	£1020					*Dates as needed*							

TEXAS Instruments training courses for 2024

PLC courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Texas 500/505 Series PLC M&T (Part 1)	4 days	£1170					*Dates as needed*							
Texas 545/555 Series PLC M&T (Part 2)	4 days	£1170					*Dates as needed*							
Texas 405 PLC Basic M&T	4 days	£1170					*Dates as needed*							
Texas 305 Series PLC Basic M&T	3 days	£980					*Dates as needed*							
Texas 560/565 Series PLC M&T	10 days	£2620					*Dates as needed*							
Texas 5 TI PLC Basic M&T	2 days	£720					*Dates as needed*							
Texas PM 500 PLC M&T	5 days	£1550					*Dates as needed*							

M&T = Maintenance & Troubleshooting

INTACS training courses

MORE PLC training courses for 2024

PLC courses

Honeywell courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Honeywell IPC 620-35/36 M&T	5 days	£1410					Dates as needed							

IDEC courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
MicroSmart PLC Basic M&T	2 days	£680					Dates as needed							
FA Series PLC Basic M&T	3 days	£960					Dates as needed							

Eberle courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Eberle PLS 508/509 PLC & M&T	3 days	£1020					Dates as needed							
Eberle PLS 514 PLC M&T	4 days	£1210					Dates as needed							

Alspa course

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Alspa PLC M&T	4 days	£1180					Dates as needed							

GEM 80 course

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
GEM 80 Series PLC M&T	4 days	£1460					Dates as needed							

Toshiba course

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Toshiba PLC M&T	3 days	£980					Dates as needed							

M&T = Maintenance & Troubleshooting

SCADA training courses for 2024

Wonderware InTouch courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
InTouch SCADA Essentials	3 days	£1040					Dates as needed							

ICONICS courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Genesis 32 Basic	3 days	1040					Dates as needed							

RSView SE / RSView 32 courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
RSView 32 Maintenance & Implementation	3 days	£1060					Dates as needed							

GE SCADA courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Proficy iFIX Fundamentals	4 days	£1620					Dates as needed							
Proficy iFIX Advanced	4 days	£1620					Dates as needed							
Earlier FIX/FIXDMACS versions can be accommodated														
Proficy CIMPLICITY Basic	4 days	£1920					Dates as needed							
Proficy CIMPLICITY Advanced	4 days	£1920					Dates as needed							

INTACS training courses

Variable Speed Drives / Inverters

Variable Speed Drives (VSDs) / Inverters training
VSDs or Inverters are widely used in industry to control motor speed. Courses are available covering both AC & DC Drives.

The demand for training centres around maintenance people who need to have an understanding of the hardware involved, safe working, how the VSD controls the motor, the range of parameters that affect motor performance, an understanding of typical faults & likely symptoms with coverage of error codes & their interpretation. The courses deal with methods for localising problems & VSD replace & reload procedures.

A generic course is available which covers the fundamental principles that can be applied to a range of commonly used Drives. Attendance on this course (or equivalent practical experience), is a prerequisite for any of our manufacturer-specific Drives courses.

Generic VSD Fundamentals

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Getting Started with Inverters	1 day	£480	Dates as needed										

Allen Bradley Inverters

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
PowerFlex 525 VSD	2 days	£780	Dates as needed										
PowerFlex 40/400 VSD	2 days	£780	Dates as needed										
PowerFlex 70/700/753 VSD	2 days	£820	Dates as needed										
PowerFlex 40/400 & 70/700/753 VSD	3 days	£1090	Dates as needed										
PowerFlex on DeviceNet	2 days	£820	Dates as needed										
B160 Drives on DeviceNet	2 days	£820	Dates as needed										

Siemens MicroMaster 420/440 & SINAMICS G110 / G120 Inverters

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
MicroMaster 420 / 440 VSD M&T	1 day	£480	Dates as needed										
Siemens Sinamics G110/120 VSD M&T	2 days	£820	Dates as needed										

Mitsubishi Inverters

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Mitsubishi AC Inverters Maintenance	1 day	£480	Dates as needed										

Omron Inverters

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Omron SysDrive Inverter	1 day	£480	Dates as needed										

Schneider Electric Inverters

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Altivar VSD	1 day	£480	Dates as needed										
Lexium VSD	1 day	£480	Dates as needed										

Control Techniques Inverter

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Commander SE	1 day	£480	Dates as needed										

Other Variable Speed Drives / Inverters

In additional to the above, we are also able to provide training on a range of other popular Drives.
If you use a different manufacturer's Drive, ask how we can help.

INTACS training courses

Danfoss VLT training courses for 2024

VLT Variable Speed Drives courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Danfoss VLT Basic Familiarity	*1 day*	£480					*Dates as needed*							

Description
This course is intended for novices who have little or no previous knowledge of Variable Speed Drives. Attendance on this course (or an equivalent level of knowledge & skill) is an essential pre-requisite for the "VLT Maintenance & Troubleshooting" course.

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Danfoss VLT / FC Maintenance & Troubleshooting	*1 day*	£480					*Dates as needed*							

Description
This course is aimed at the Service or Maintenance Engineer who needs a good level of understanding of the VLT Series Drives. To get maximum benefit from the course, delegates will be expected to have a reasonable working knowledge of Variable Speed Drive technology. The course will cover installation & set-up procedures, use of the Dialog or MCT software & will explain the purpose & function of a range of key parameters & their effect on the operation & performance of the Drive. Delegates will gain practical experience of fault-finding tools & techniques. The course will typically be based around the Danfoss VLT 2800/5000/6000 Drives.

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Working with & Troubleshooting Danfoss VLT / FC Drives on Profibus	*1 day*	£530					*Dates as needed*							
Working with & Troubleshooting Danfoss VLT / FC Drives on DeviceNet	*1 day*	£530					*Dates as needed*							

Description
Knowledge of the specific PLC system used & attendance on the Danfoss VLT / FC Maintenance & Troubleshooting course are prerequisites for this course.

Lenze training courses for 2024

INTACS can now offer the full range of Lenze Inverter & Servo systems training courses. "Getting Started" courses are available for novices who have no previous knowledge or experience of Inverters or Servo Control. Specific product systems courses are available on scheduled dates or can be conducted on customer's own site.

Lenze 8200 Vector

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Lenze 8200 Vector with Software & Keypads	2 days	£780					*Dates as needed*							

Lenze 9300 Servo & Positioner

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Lenze 9300 Servo & Positioner	2 days	£810					*Dates as needed*							

ELAU PacDrive

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
ELAU PacDrive M or 3 Basic Service	1 day	£740					*Dates as needed*							
ELAU PacDrive M or 3 Advanced Service	1 day	£810					*Dates as needed*							

INTACS training courses

Motion Control (Servo)

Motion Control (Servo) training

The range of applications for servo control in modern industry is enormous. There are different methodologies used by the various manufacturers but there are fundamental principles of operation which are dealt with in our generic Motion Control Basic Maintenance course. An understanding of these fundamental principles is essential to effective system or machine troubleshooting.

Generic Servo Control Fundamentals

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Getting Started with Servo Control	1 day	£480	Dates as needed											

Bosch Rexroth (Indramat Drives)

The Indramat Motion Control products are established world leaders in manufacturing & automation. Working with Bosch Rexroth, INTACS can provide training support for service & maintenance personnel covering the entire Indramat Drives range.

Training for service & maintenance personnel is available for each of the following product groups.
1. Analog Servo Drives (TDM/KDS & DSC)
2. Digital Servo Drives
3. Spindle Drives (DIAX01, DIAX03)
4. Analog Motion Controls (CLM)
5. Digital Motion Controls (DLC, CLC, PPC, MT)
6. Welding Controls
7. Tightening & Press-fit Controls

Bosch Rexroth Digital Servo Drives
(training dates arranged to suit your requirements, fees on request)

Drive	Duration
DDS2.1/DKS1.1 (DIAX02) Servo Drives	1 day
DDS2.2 (DIAX03) Servo Drives	1 day
HDS/HDD (DIAX04) Servo Drives	1 day
DIAX04 Servo Drives with DriveTop	2 days
DKC*.1, EcoDrive Servo Drives with DriveTop	2 days
DKC2.1, EcoDrive Servo Drives with Sercos	1 day
DKC*.3, EcoDrive Servo Drives with DriveTop	2 days
DKC2.3, EcoDrive Servo Drives with Secros	1 day
DDR*, DuraDrive Servo Drives with DriveTop	2 days
DDR*, DuraDrive Servo Drives with Sercos	1 day
DKC21.3, EcoDrive Servo Drives with Optifeed	2 days
DKC21.3, EcoDrive Servo Drives with ELC	2 days

ControlLogix Motion Control – ULTRA & Kinetix with Sercos &/or Ethernet

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
ControlLogix Motion Control with Ultra **&/or** Kinetix & SERCOS / Ethernet (for servo novices)	4 days	£1620	Dates as needed											
ControlLogix Motion Control with ULTRA **or** Kinetix Servos (for experienced servo users)	2 days	£1020	Dates as needed											

INTACS training courses

Enhancements to our Electrical Courses

INTACS Electrical training
We continually review & improve our Electrical Training to ensure it meets the needs of modern industry. Many companies are contacting us & informing us that they have been advised by representatives of the HSE that our Electrical courses are among the very best that are available.

We believe we achieve this through:
- We cover the right topics
- We provide the right blend of underpinning knowledge & practical skills
- We provide good quality notes & exercises
- We provide Proof of Competency documentation to support key high risk activities &
- We provide companies the help & guidance to make it work when their people get back to site.

Electrical Safety training
Ask to see our Proof of Competency Logs for the following High Risk Electrical activities:
- Safe Electrical Isolation (LOTO)
- Resetting Trips & Overloads

In addition to the actual Competency Logs, we also provide convenient Assessor / Trainee Guidance/ Refresher documents to ensure that people stay safe & know exactly what to do. Additional Competency Log documentation based on the same template can be provided for sites where they have other additional & specific requirements.

Electrical Skilling training
Unlike the majority of providers of Electrical training, INTACS' Electrical Skilling courses target the needs of **Industrial Maintenance** personnel **rather than Installation Electrics** or Electrical courses with a heavy Electronics bias.

Not only have we built our courses around the needs of the maintenance team in a modern manufacturing environment (rather than perhaps what colleges did some 15 – 20 years ago) but we also provide a post-course on-going Skills Development programme (called Training WORKS) to guide continued on-site skills development over the months that follow.

Training WORKS
Companies can **add to the Training WORKS programme** to cover specific site-based skills they need their people to have & the documentation-set provided becomes a portfolio of evidence (much like the Apprentice Log Book) which not only serves as a Technical Reference or record of the range & quality of work being undertaken but also provides the Proof of Competency for specific Electrical work activities being undertaken.

New TECS 2 **Look out for our NEW TECS 2 Industrial Electrical Fault-finding course as a follow-up to the popular Industrial Electrics Part 3 or existing TECS 1 course.**

Industrial Electrical training courses for 2024

Industrial Electrical Control courses
Industrial Electrical Multiskilling training

This is THE COURSE
for companies wanting to up-skill their non-electrical maintenance personnel or for production people & operators who need to improve their knowledge & understanding of the fundamentals of industrial electrics including working safely on & around electrically powered machinery & systems, we believe this is **THE COURSE**. The full course has for years been a 10 day programme, however, for some companies just the first 5 days may be sufficient.

More recently companies have wanted to further strengthen safe troubleshooting skills & to equip people with a wider range of experience. To achieve this we have added a week 3 to our Industrial Electrics programme. Days 1 – 2 are practical & reinforce the safe & correct use of the tools & test equipment & relating electrical drawings to control panel layout & components. Days 3 - 5 concentrate on tackling fault scenarios & progress reports are produced per fault detailing safe working, accuracy, speed of working & records any electrical components swapped unnecessarily.

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Industrial Electrics & Control Fundamentals Part 1	*5 days*	£1320	8 15	26	11	8	13	24		5	16	28		9
Industrial Electrics & Control Fundamentals Part 2	*5 days*	£1320	29		11	15	20		1	12	23		4	16
Part 3A: Troubleshooting Electrical Control Systems (TECS 1)	*5 days*	£1320	22	5 26	18	29		17	29		30		11	
Part 3B: Troubleshooting Electrical Control Systems (TECS 2)	*5 days*	£1320				22			8		2		18	

Available ON-SITE
The Industrial Electrics & Control Fundamentals course can be tailored to suit the needs of your own people & the requirements of your site. Please ask for further details.

And why is this THE COURSE to attend?
There are a number of reasons why we believe this is **THE COURSE** to attend.
1. It is tailored to the needs of modern industry & is miles away from the old college-style study of diodes, transistors & resistors. Some training companies still do this!
2. The training focuses on industrial & includes all the key fundamentals. C&G courses tend to be biased towards the needs of commercial & domestic electrics.
3. It is backed by our Training WORKS programme with continued workplace-based exercises & support for you & your people for up to 12 months after the training.
4. We provide you the tools to monitor & manage the development of your people & demonstrate competence as required by H&S law.
5. **Eight years ago we added & refined the Part 3 which focused specifically on Boosting Electrical Troubleshooting Skills where people not only develop a safe & logical strategy to troubleshoot but where they have ample opportunity to put those skills into practice & are challenged with a wide range of fault scenarios. This is now our Part 3: Troubleshooting Electrical Control Systems (TECS) course.**
6. **Because Safe Electrical Fault-finding Skills are in such demand, TECS has been enhanced & we now offer TECS 1 & TECS 2 providing further Fault-finding experience on a wider range of faults**

Training WORKS
Training WORKS is the concept we have pioneered to support our **Industrial Electrics & Control Fundamentals** course to ensure that the benefit of the training is not lost over a period of time. Companies can now count on their people retaining the knowledge & skills learned on the course.

In fact the concept is even more ambitious.
The aim is that the level of competence is enhanced over a period of time, not just maintained.

Mechatronics courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Mechatronics Level 1 (C&G)	*3 days*	£1150			25						9			
Mechatronics Level 2 (C&G)	*3 days*	£1150				7								

INTACS training courses

City & Guilds 18th Edition & 2391 courses

BROWN BOOK *18th Edition Wiring Regulations, BS7671:2018 (2024)*
Course also available on-site

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
C&G 2382-22: 18th Edition Wiring Regulations *Full* Course	3 days	£625 + £95 exam	3	21	25		8	5	24			9		4
C&G 2382-22: 18th Edition Wiring Regulations *Update 1* Course *	1 day	£220 + £95 exam	Group training only, minimum group size from 4 candidates, dates on demand											
C&G 2382-22: 18th Edition Wiring Regulations *Update 2* Course **	2 days	£430 + £95 exam	Group training only, minimum group size from 4 candidates, dates on demand											

The 18th Edition Wiring Regulations came into effect on 1st January 2019. Whilst it is not a legal requirement for people in industry to have the 18th Edition qualification, if companies do nothing about the 18th Edition & there is an electrical incident or accident on-site & the HSE are involved, it will be hard to justify that knowledge of the current Wiring Regulations is not important enough for maintenance personnel who may be involved with electrical work to be aware of.

Amendment 2 became live on 28th March 2022. The new "brown book" is some 20% thicker than the previous "blue book" & there is a completely new Section on "Prosumers". Please note some of the details in the blue book have now been changed so this is not necessarily the best resource document on the Wiring Regulations to refer to.

Current FIRST-TIME Pass rate on our 18th Edition courses for Multiskilled & Electrical maintenance personnel is still over 90% (over 500 candidates so far). That is, with us, more than 9 out of every 10 industrial maintenance people who are NOT regular users of the Regs Guide still pass the exam first time!

*The Update 1, 1 day course is for regular users of the Regs book who have the original 18th Edition qualification.
**The Update 2, 2 day course is for typical industrial maintenance personnel (infrequent users of the Regs book) who have the original 18th Edition qualification, who need "refreshing" as well as updating to Amendment 2.

Fundamental Inspection, Testing & Initial Verification C&G 2392-10

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
C&G 2392-10 Fundamental Inspection, Testing & Initial Verification of Electrical Installations	3 days	£525		5		2		3						

Note, C&G 2392-10 is a lighter version of the full C&G 2391-50/51/52 qualification & allows holders to sign-off their own electrical work in respect of typical on-going minor works. C&G 2392-10 does not cover 3-phase working.
We plan to offer a 2 day Industrial Bolt-on which does cover 3-phase working & immediately follows the C&G 2392-10.
The C&G 2391 – 50/51/52 qualification is the higher standard which also covers 3-phase & the signing-off the work of others.

Periodic Inspection, Test & Certification of Electrical Installations

We can arrange C&G 2391-50/51/52 training but the training does not take place in our Wellingborough Centre.
C&G 2391-50 (EAL 4337) qualifies people to work on new installations only.
C&G 2391-51 (EAL 4338) qualifies people to work on old (existing) installations only.
C&G 2391-52 is the combined C&G qualification (covers both -50 & -51 qualifications).

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Inspect, Test & Certification of Electrical Installations C&G 2391-52 (fee covers -50 & -51 exams)	4 + 1 days	£885+VAT	15	19	18		20	17	15					

Electric Vehicle Charging C&G 2921-31

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
C&G 2921-31: Design & Installation of Domestic & Small Commercial Electric Vehicle Charging Installations	2 days S. East	£385+VAT			25		28							

Electrical Safety training courses for 2024

Electrical H&S, Safe Electrical Isolation, Resetting Trips & Overloads

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Electrical H&S, Safe Electrical Isolation, Resetting Trips & Overloads	1 day	£370		20		5		4	23		3	8		3

Group discounts available

IMPORTANT

How important are these to you, your company & your maintenance team?

- **Safe Isolation – properly**
- **Checking for DEAD – safely**
- **Resetting RCDs, MCBs & Motor Overloads – safely**

As you'll already know, the law requires that people working on or around machinery & systems powered by electricity, **must be given appropriate training** and to **have adequate systems, procedures & documentation.**

Do you have procedures for safe working? And, most importantly, they sound?

Do your people have the essential under-pinning Electrical Health & Safety knowledge, have they been taken through your procedures & demonstrated competence? Do you have the supporting documentary evidence? **Have you done enough?**

Our 1 day course has been developed to suit the needs of **non-electrical maintenance personnel, production people & machine or line operators** but is regularly adapted to suit the needs of **practicing electricians**. The course covers a range of important statutory Electrical H&S issues with a special focus on Safe Electrical Isolation (crucial even if the job to be done is essentially mechanical) & Resetting Trips & Overloads safely.

Duty Holder's Safety of Electrical Systems

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Duty Holder's Safety of Electrical Systems	1 day	£370		19		4		3	22		2	7		2

Part 3: Troubleshooting Electrical Control Systems

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Part 3A: Troubleshooting Electrical Control Systems (TECS)	5 days	£1320	22	5 26	18	29		17	29		30		11	
Part 3B: Troubleshooting Electrical Control Systems (TECS)	5 days	£1320				22			8		2		18	

This course aims to meet the needs of electricians & practicing multi-skilled maintenance personnel who need to review their approach to SAFE WORKING & improve their electrical TROUBLESHOOTING SKILLS. The course provides a range of fault-finding scenarios from basic level through to very challenging & which must be tackled safely & efficiently with the minimum of unnecessary & expensive hardware & component swaps.

The re-vamped course now contains considerably more "training" in the art of Safe Electrical Troubleshooting developing safe strategies on getting started as well as appropriate use of tools & test equipment. Where delegates have previously struggled to correctly interpret meter readings & understand the implications, we are now providing an increased level of coverage. **Individual certificates of performance will be issued & will score on safety, accuracy, cost & speed of working.**

In-Service Inspection & Testing of Electrical Equipment (formerly PAT)

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
In-Service Inspection & Testing of Electrical Equipment (*formerly PAT*) C&G course focus is too academic	2 days	£580		22		2	30			19	21			

Machinery Safety Training (C&G)

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Machinery Safety (C&G)	4 days	£1500	Dates on request											

BS EN-60204 (not C&G)

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
New Introduction to Machinery Safety BS EN 60204-1	1 day	Group training only, minimum group size from 4 candidates, dates on demand												

INTACS training courses

Mechanical training courses for 2024

Pneumatics & Hydraulics courses

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Modern Industrial Pneumatics (F) (C&G accredited)	3 days	£1150	29			15			1					
Introduction to Electro-Pneumatics (F)	3 days	£1150		19			13			12			4	
Modern Industrial Hydraulics (C&G) (F)	3 days	£1150			27			11			10			
Basic Hydraulics (B)	3 days	£1110												
Level 2 Fault-finding Hydraulic Systems (B)	2 days	£740												
Proportional Hydraulics (B)	3 days	£1110												

Mechanical Skills for Electricians

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Mechanical Maintenance Skills Part 1 (Training Centre *South*)	4 days	£1095		27										
Mechanical Maintenance Skills Part 2 (Training Centre *South*)	4 days	£1095	8	5		9								

Welding, Abrasive Wheels & Ladder Safety

Course type	Duration	Fee	
Basic Welding Process (MIG, TIG, ARC) – 2 disciplines	3 days	TBA	*Dates as needed*
Mandatory Abrasive Wheels	½ day	Group rate for full day	*On-site only, dates as needed*
Practical Handling & Safe Use of Abrasive Wheels	½ day		
Working Safely with Ladders, Working at Heights & Safe Use of Harnesses	1 day	Group rate	*On-site only, dates as needed*

Introduction to PLC & Introduction to Variable Speed Drives courses

The following Introductory courses are intended for those relatively new to PLCs.
The training is Instructor led & it is not intended that delegates will be expected to gain any specific proficiency with the particular PLC monitoring software tool. It is the objective of the following courses that delegates will gain a firm understanding of the principles of PLC control & that knowledge can be related to specific PLC hardware as used on-site.

Getting Started with Variable Speed Drives / Variable Frequency Drives is a 1 day course for those with no or limited previous knowledge & experience of working with VSDs/VFDs. The course covers basic principles & includes reference to several major suppliers' equipment.

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Introduction to PLCs & Basic PLC Fault-finding Principles	2 days	£695	22		4		9		8		2			16
Getting Started with Variable Speed Drives / Variable Frequency Drives	1 day	£480	24		6		11		10		4			18

INTACS training courses

Instrumentation training courses for 2024

Instrumentation & Process Control – the basics

The combined effect of the withdrawal of the leading process control manufacturers & suppliers from the provision of training & the need for end-users to broaden the skill base of their engineering & maintenance support people so that they can understand more complex control systems & be able to identify & troubleshoot abnormal system operation safely & more effectively has created the demand for a solid Fundamentals course which covers key understanding & skills for both electrical & non-electrical personnel.

Instrumentation & Process Control – the basics course

Course type	Duration	Fee	J	F	M	A	M	J	J	A	S	O	N	D
Instrumentation & Process Control Part 1	*4 days South*	£1165												
	4 days Midlands													
Instrumentation & Process Control Part 2	*4 days South*	£1165												
	4 days Midlands													

This course will cover the basic concepts of measurement & control & include the following key topics:

- **Temperature**
- **Pressure**
- **Level**
- **Flow**
- **Humidity, Density, Viscosity & pH**

The course will also cover:

- **Weighing equipment**
- **Valve Limit Switches**
- **Proximity & Optical Sensors**
- **Interface to PLC systems**
- **Fundamentals of PID control**

This course is for maintenance personnel who need to be able to work more closely with their process colleagues with the common goal of reducing downtime & wasted product. It is intended to provide a thorough grounding for non-instrument techs such that they can understand more about the world of instrumentation & process control & be able to contribute more when things go wrong, communicate clearly & be able to work more safely.

PLC & Drives Manufacturers

**INTACS strives to work alongside leading manufacturers
to offer a real alternative to manufacturer's own courses**

We offer training in support of the following leading manufacturers' systems

Allen Bradley	Festo	Rockwell
Siemens	Mitsubishi	Bosch
Indramat	Danfoss VLT	Eberle
GE Fanuc	Rexroth	Hitachi
Lenze	Square D	Fluke
Moeller Electric	Alstom	DirectLogic
Toshiba	GEM 80	Fanuc
Honeywell	Telemecanique	ABB
Texas	Schneider	Alspa
IDEC	Omron	NAIS
Modicon	Beckhoff	PanelView
PowerFlex	MicroMaster	B160
EcoDrive	Ultra 3000/5000	Kinetix
Altivar	Lexium	E1000
Control Techniques	SEW	Commander
DeviceNet	Ethernet	ControlNet
Profibus	InterBus	ASi
Siemens 820	Siemens 840D	Fanuc CNC

INTACS, Industrial Training Centre
Harbo Works, Harrowden Road, Wellingborough, Northants, NN8 5BJ
Tel: 01933 440 679
E-mail: enquiries@intacs.co.uk   Website: www.intacs.co.uk