INDUSTRIAL TRAINING & CONSULTANCY SERVICES
Industrial Training Centre
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Training models – the range

PLC training – how to keep the knowledge & skills sharp

These days, the technical demands on the engineering maintenance team in the modern production environment are great. PLC-based machine & process control systems are clever but complex. Tight budgets mean that companies are often forced to run with the minimum number of maintenance people meaning that those on shift need to be on top of their game.
Customers & consumers are generally pretty cost conscious & this means that manufacturing companies are operating in a very competitive market. The key to survival is about being able to produce volume, on time & whilst maintaining quality but at the lowest cost. This means that the dependence on the availability of production machinery & systems is total.
March 2023 supplier price increases have now been incorporated for all Training Model hardware, PLC software & equipment.

The popular misconception is that because the PLCs themselves are very reliable, the requirement for training is not a big issue. People who take this line generally fail to realise that very often the problem is not with the PLC but a field fault out on the machine or process; the real issue is finding the problem! To remain competitive, costly breakdowns & stoppages have to be resolved fast & understanding the PLC itself, being able to read the program & monitor field status provides the very best troubleshooting tool. Where companies rely on expensive third-party support, response time can still mean costly delays whilst waiting for an engineer to get to site. Modem links to remote support sites are not without their problems, can be unreliable due to communications problems & also may still require a competent person on-site by the machine. Also, where companies rely on remote support, time differences in other countries & different holiday patterns sometimes means the cover is not available when needed.

The Solution

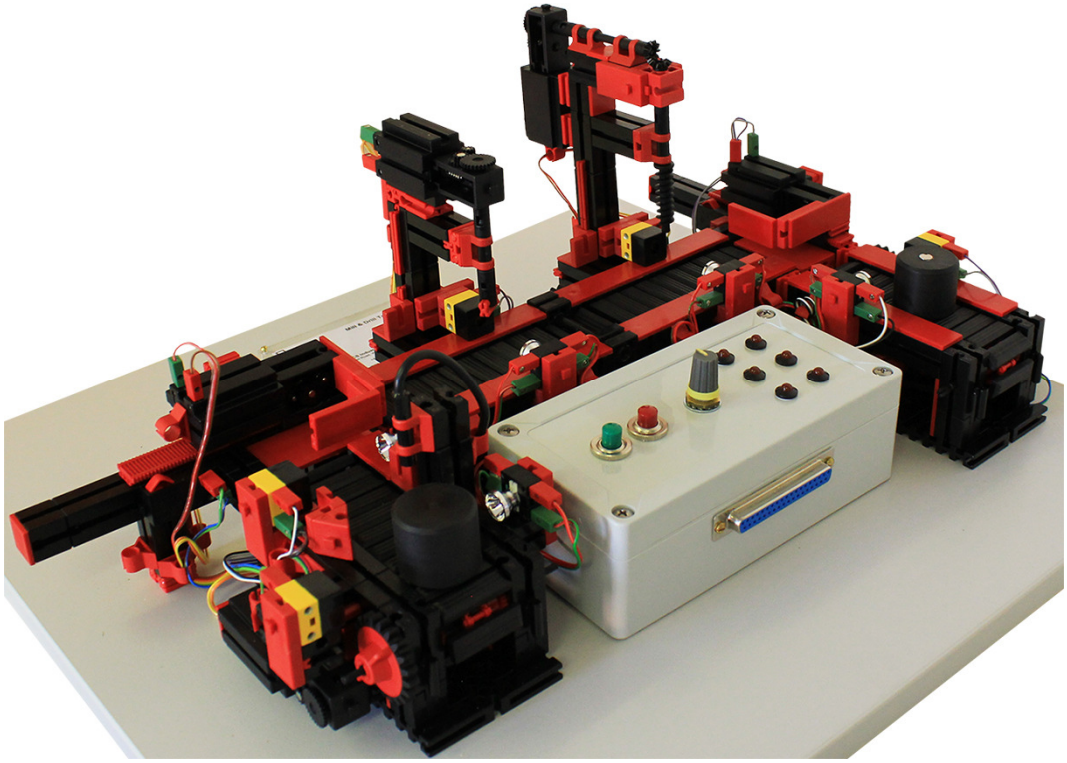
Where companies have enough PLC spares to make a small “test-rig”, following appropriate PLC foundation training, the IPTC can be connected & used to provide the essential practice necessary to keep front-line skills sharp, to refresh basic Maintenance Procedures & further develop Fault-finding techniques. Where PLC hardware is not readily available on-site for this purpose, INTACS can quote to supply suitable equipment to match site needs.

Conveyor Hardware

The INTACS Training Models comprise a compact, working bench top multi-platform test bed designed to provide practice at essential Maintenance & Troubleshooting skills for maintenance personnel on the required PLC system used on-site. The one Model can be connected & used with any make of PLC system provided the appropriate number of 24 volt field Input & Output terminations are available.

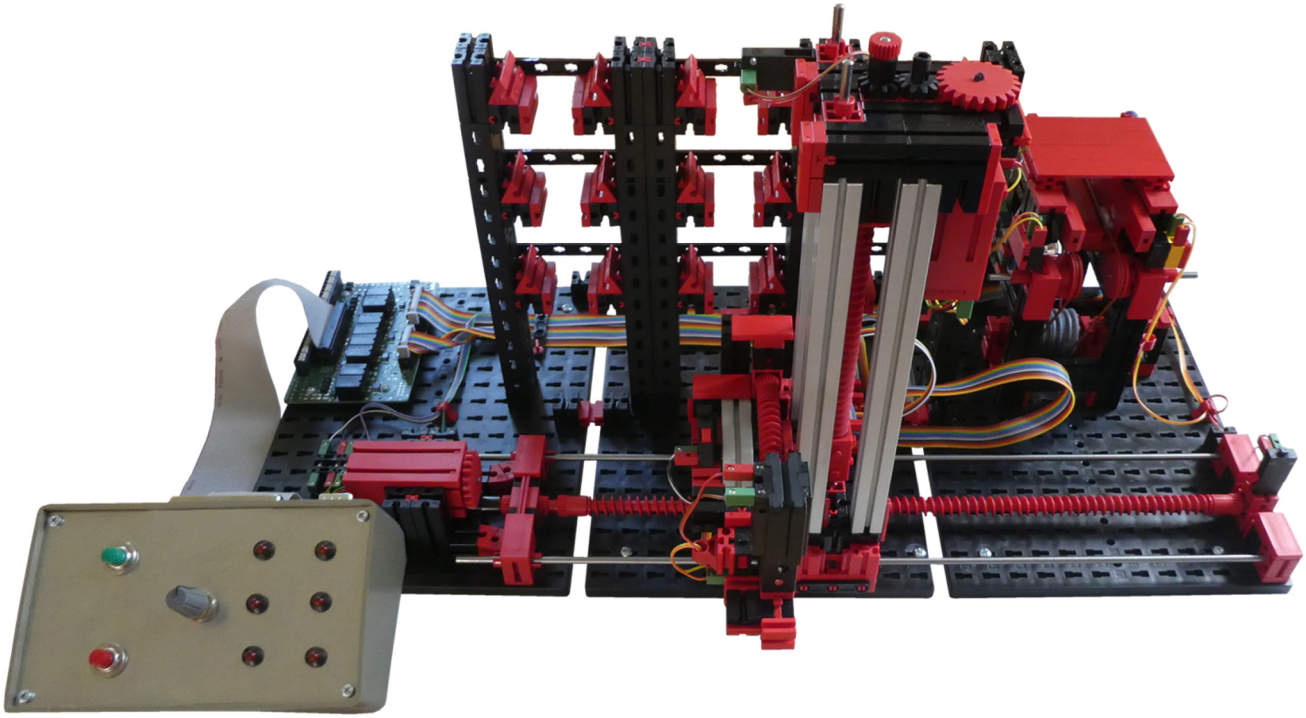
Mill & Drill Transfer Line (MDTL)

Good for PLC Fault-finding Skills & developing PLC Programming Skills £2340 + VAT



Hi-Bay Warehouse (HIBW)

Good for developing PLC Programming Skills £2440 + VAT



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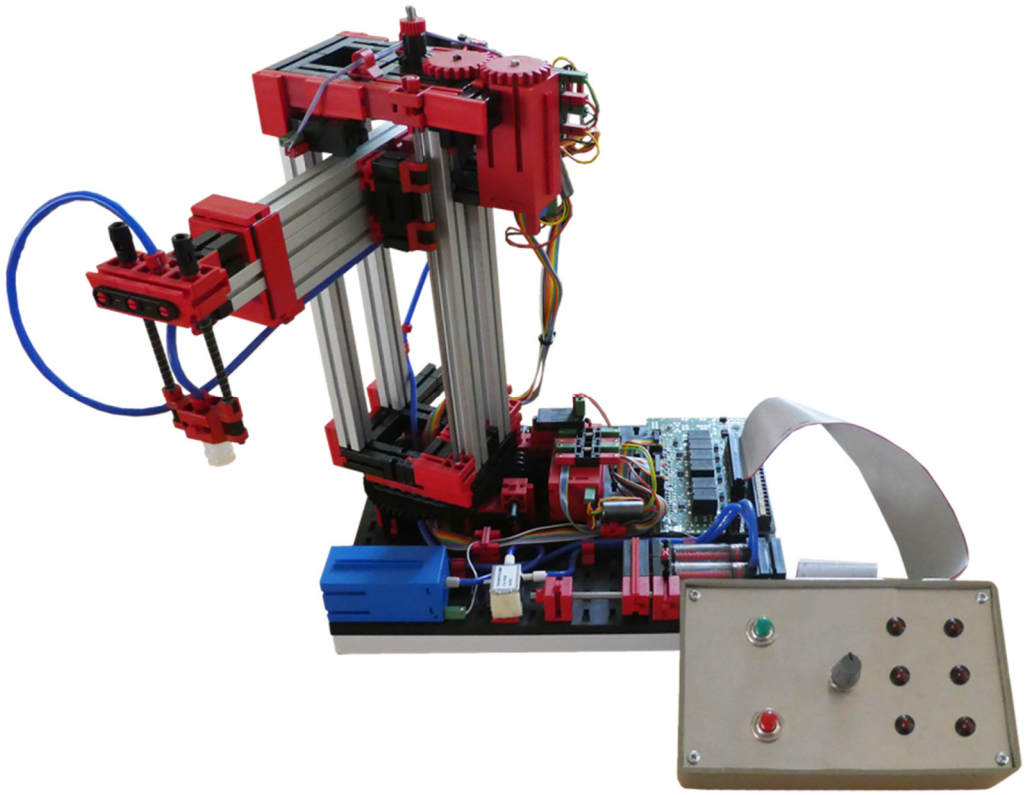
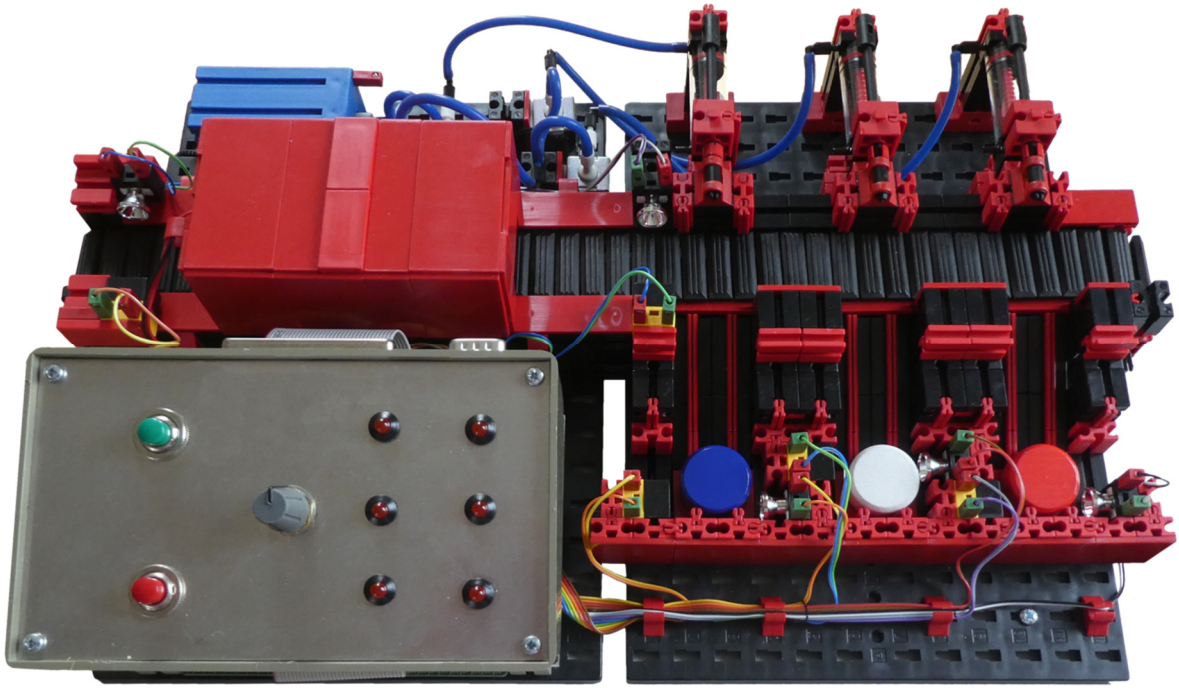
Pick & Place Robot Arm (PPRA)

Good for developing PLC Programming Skills £2500 + VAT



Product Sort Station (PSS)

Good for PLC Fault-finding Skills & developing PLC Programming Skills £2280 + VAT



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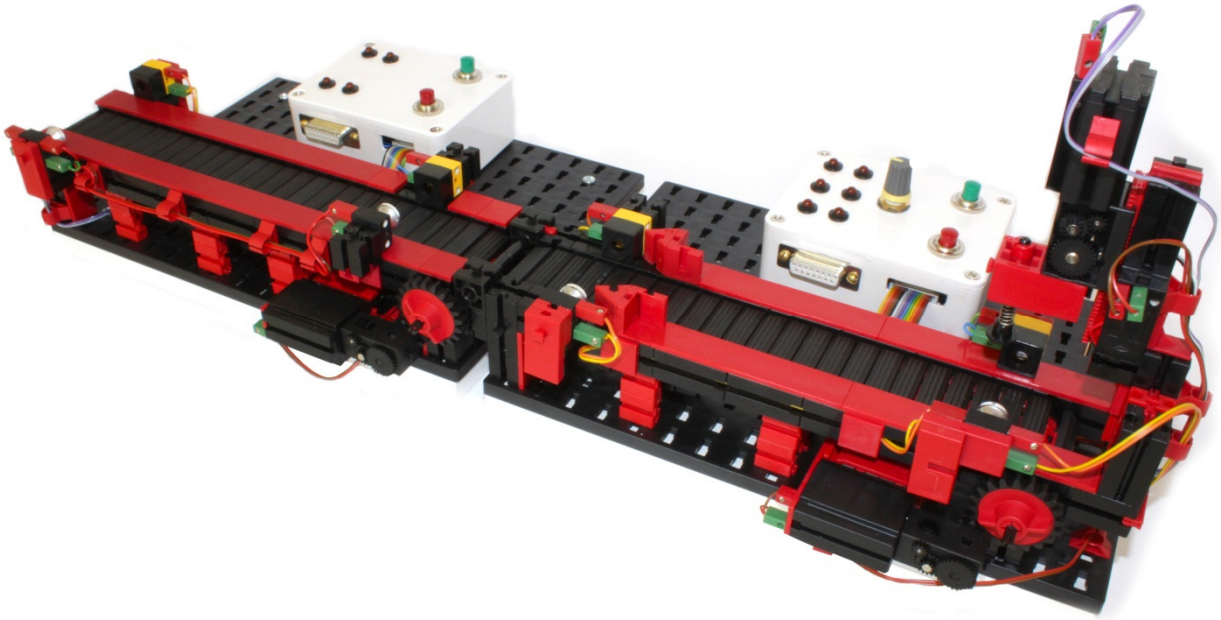
Transfer Line & Punch Station (TLPS)

Good for PLC Fault-finding Skills & developing PLC Programming Skills £2350 + VAT



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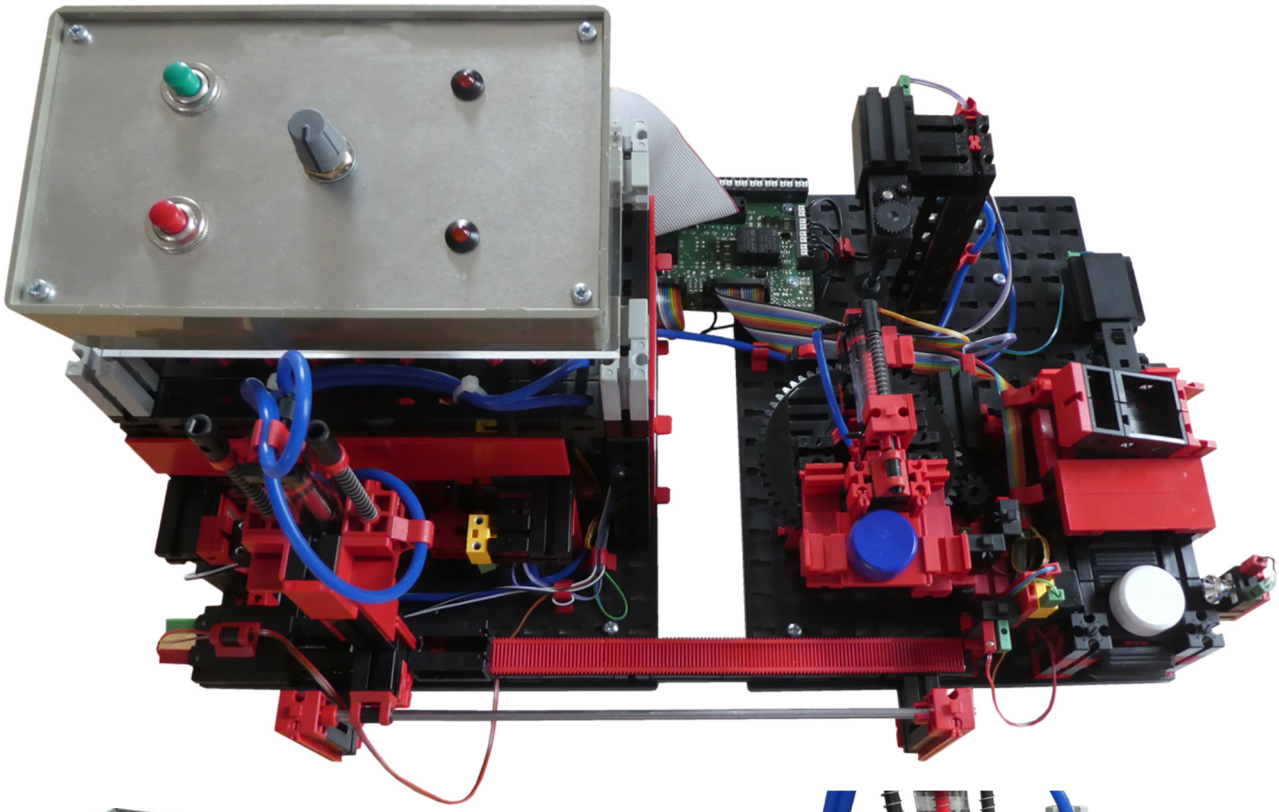
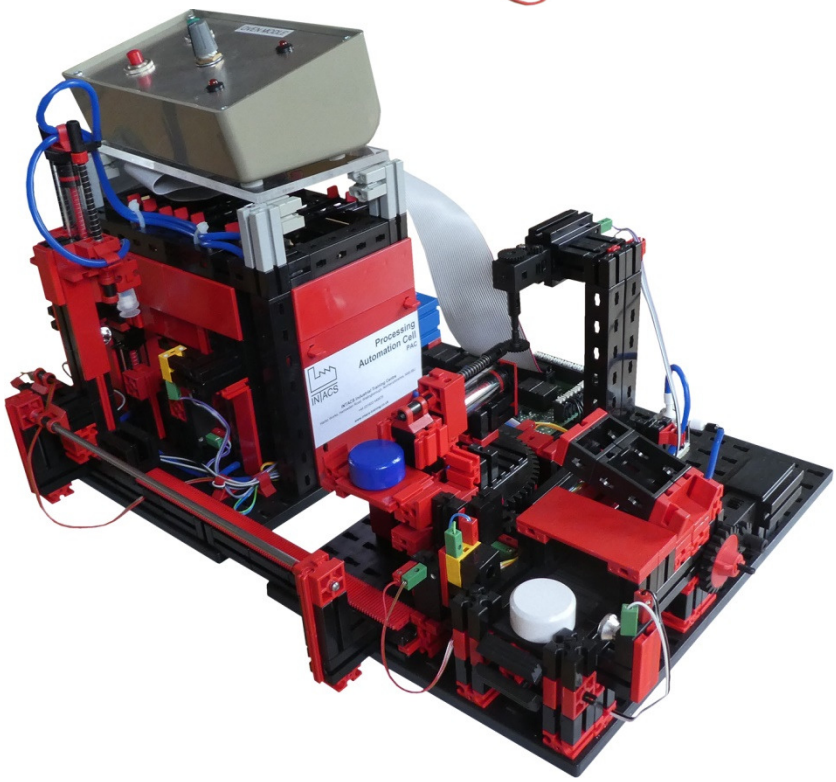
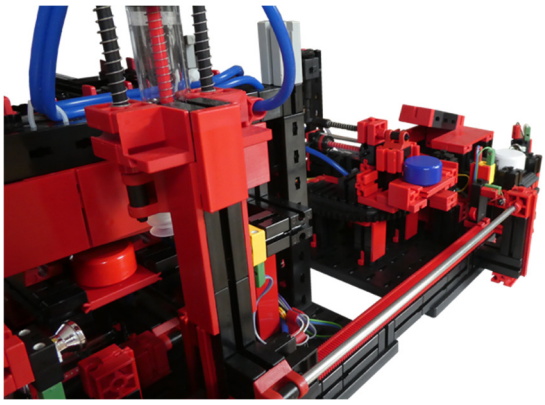
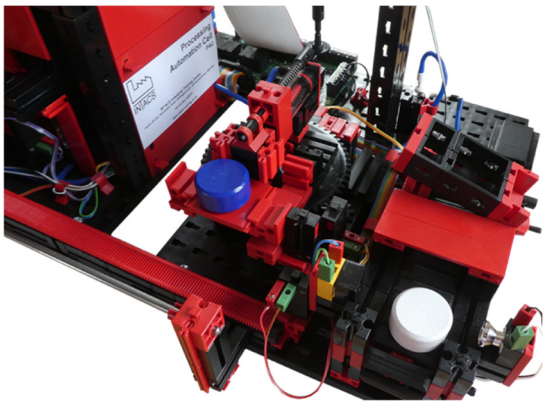
Process Automation Cell (PAC)

Good for PLC Fault-finding Skills & developing PLC Programming Skills £2440 + VAT









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PLC equipment
The above models are not supplied with PLC equipment. To benefit from the full functionality of the models, the PLC to be used would ideally have a minimum of 16 x digital inputs (24 VDC Sink) & 16 x digital outputs (24 VDC Source). Suitable PLC hardware can be supplied on request – see below.

Structured Learning Support Packs with PLC software
The above training model Hardware can be supplied with or without Learning Materials & Software. Software to control the models can be written by clients to suit their own purposes – it's just having the time & knowing what you want to achieve! For each of the models (above) & each of the PLCs (below), the following will be available:

Getting Started Pack (GSP), £1550+VAT
Aimed at the PLC novice who needs to grasp or reinforce the basics through practical exercises.

Fault-finding Pack (FFP), £1550+VAT
Practical fault-finding exercises.

Programming Skills Pack (PSP), £1550+VAT
Programming exercises for those wanting to develop PLC programming skills.

Structured Learning Support Packs with PLC software are available for each of the models for the following PLCs. Software for other PLCs can be supplied on request.

PLCs supported
Siemens PLCs
Siemens S5, Siemens S7-300/400, Siemens S7-1200, Siemens S7-1500

Allen Bradley PLCs
ControlLogix, CompactLogix, SLC500, MicroLogix, PLC-5

Mitsubishi
FX, Q Series

Other PLC systems can be supported on request.

Special note:
Please note, both the Hi-Bay Warehouse & the Pick & Place Robot Arm Training Models do not lend themselves particularly well for Fault-finding but are excellent if required to help develop PLC Programming Skills.

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INTACS

PLC hardware

Where companies do not have sufficient spare PLC hardware which can be assembled to make a system for trainees to practice basic skills in safety & build confidence (hardware which is not going to be “robbed” to support production), we are able to provide fully wired PLC training rigs which can be connected to an I/O Simulator or INTACS working model.

Ex-training PLC rigs are fully wired including Chassis / base, CPU, PSU, a minimum of 16 digital inputs, 16 digital outputs & 1 x analog input channel.

Typical PLC training rig costs (fully wired):

Siemens S7-300, £1260+VAT
Siemens S7-200, £995+VAT
Allen Bradley SLC500, £1050+VAT
Allen Bradley CompactLogix, £1900+VAT
Siemens S5, £1150+VAT
Siemens S7-1200, £1650+VAT
Allen Bradley ControlLogix, £1950+VAT
Mitsubishi FX Series, £1250+VAT

High Speed Counter

For the latest PPRA & latest Hi-Bay Warehouse Training Models, they both have two Encoders used for positioning tasks. This may mean that an additional Hi Speed Counter Module may be required if a specific Model of PLC is requested & this could add as much as £600 to the PLC hardware. A quotation should be requested if you want INTACS to provide the PLC hardware.

Customised advanced PLC training rigs (e.g. to include Profibus, ASi, DeviceNet, an HMI, etc) can be supplied on request.

I/O Simulator

We also supply I/O Simulators (16 Digital inputs, 16 Digital outputs & an Analog input channel) which can be connected to the PLC rigs as simulated field I/O for training exercises, project testing purposes & as a diagnostic tool for checking suspect I/O modules.
Cost is £480+VAT plus shipping.

Shipping

UK shipping (packaging, postage & insurance) for training models is £80+VAT per unit.
Overseas shipping on request

Special orders

Special orders can be considered on request.
For example, some clients prefer the training model to include additional hardware to match site manufacturing systems e.g. to include an HMI, to include Remote I/O over Profibus, Profinet, Ethernet, Interbus, ASi, DeviceNet or ControlNet.

13th March 2023

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