

# Industrial Hardware & IEC Print Reading

September 2025

## Course Overview

After completing this course, students will develop an understanding of common industrial hardware used in automation systems. They will also be able to read IEC Electrical Prints, identifying components and understanding how to wire according to electrical prints.

<b>DOC</b> 1-19	<b>DOC</b> 22-19	<b>DOC</b> 31-19	<b>DOC</b> 41-19	<b>DOC</b> 60-79	<b>DOC</b> 81-89
<b>DCS</b> DCS101 DCS102 DCS103 DCS104 DCS105 DCS106 DCS107 DCS108 DCS109 DCS110 DCS111 DCS112 DCS113 DCS114 DCS115 DCS116 DCS117 DCS118 DCS119 DCS120 DCS121 DCS122 DCS123 DCS124 DCS125 DCS126 DCS127 DCS128 DCS129 DCS130 DCS131 DCS132 DCS133 DCS134 DCS135 DCS136 DCS137 DCS138 DCS139 DCS140 DCS141 DCS142 DCS143 DCS144 DCS145 DCS146 DCS147 DCS148 DCS149 DCS150 DCS151 DCS152 DCS153 DCS154 DCS155 DCS156 DCS157 DCS158 DCS159 DCS160 DCS161 DCS162 DCS163 DCS164 DCS165 DCS166 DCS167 DCS168 DCS169 DCS170 DCS171 DCS172 DCS173 DCS174 DCS175 DCS176 DCS177 DCS178 DCS179 DCS180 DCS181 DCS182 DCS183 DCS184 DCS185 DCS186 DCS187 DCS188 DCS189 DCS190 DCS191 DCS192 DCS193 DCS194 DCS195 DCS196 DCS197 DCS198 DCS199 DCS200	<b>DCS</b> DCS201 DCS202 DCS203 DCS204 DCS205 DCS206 DCS207 DCS208 DCS209 DCS210 DCS211 DCS212 DCS213 DCS214 DCS215 DCS216 DCS217 DCS218 DCS219 DCS220 DCS221 DCS222 DCS223 DCS224 DCS225 DCS226 DCS227 DCS228 DCS229 DCS230 DCS231 DCS232 DCS233 DCS234 DCS235 DCS236 DCS237 DCS238 DCS239 DCS240 DCS241 DCS242 DCS243 DCS244 DCS245 DCS246 DCS247 DCS248 DCS249 DCS250 DCS251 DCS252 DCS253 DCS254 DCS255 DCS256 DCS257 DCS258 DCS259 DCS260 DCS261 DCS262 DCS263 DCS264 DCS265 DCS266 DCS267 DCS268 DCS269 DCS270 DCS271 DCS272 DCS273 DCS274 DCS275 DCS276 DCS277 DCS278 DCS279 DCS280 DCS281 DCS282 DCS283 DCS284 DCS285 DCS286 DCS287 DCS288 DCS289 DCS290 DCS291 DCS292 DCS293 DCS294 DCS295 DCS296 DCS297 DCS298 DCS299 DCS300	<b>DCS</b> DCS301 DCS302 DCS303 DCS304 DCS305 DCS306 DCS307 DCS308 DCS309 DCS310 DCS311 DCS312 DCS313 DCS314 DCS315 DCS316 DCS317 DCS318 DCS319 DCS320 DCS321 DCS322 DCS323 DCS324 DCS325 DCS326 DCS327 DCS328 DCS329 DCS330 DCS331 DCS332 DCS333 DCS334 DCS335 DCS336 DCS337 DCS338 DCS339 DCS340 DCS341 DCS342 DCS343 DCS344 DCS345 DCS346 DCS347 DCS348 DCS349 DCS350 DCS351 DCS352 DCS353 DCS354 DCS355 DCS356 DCS357 DCS358 DCS359 DCS360 DCS361 DCS362 DCS363 DCS364 DCS365 DCS366 DCS367 DCS368 DCS369 DCS370 DCS371 DCS372 DCS373 DCS374 DCS375 DCS376 DCS377 DCS378 DCS379 DCS380 DCS381 DCS382 DCS383 DCS384 DCS385 DCS386 DCS387 DCS388 DCS389 DCS390 DCS391 DCS392 DCS393 DCS394 DCS395 DCS396 DCS397 DCS398 DCS399 DCS400	<b>DCS</b> DCS401 DCS402 DCS403 DCS404 DCS405 DCS406 DCS407 DCS408 DCS409 DCS410 DCS411 DCS412 DCS413 DCS414 DCS415 DCS416 DCS417 DCS418 DCS419 DCS420 DCS421 DCS422 DCS423 DCS424 DCS425 DCS426 DCS427 DCS428 DCS429 DCS430 DCS431 DCS432 DCS433 DCS434 DCS435 DCS436 DCS437 DCS438 DCS439 DCS440 DCS441 DCS442 DCS443 DCS444 DCS445 DCS446 DCS447 DCS448 DCS449 DCS450 DCS451 DCS452 DCS453 DCS454 DCS455 DCS456 DCS457 DCS458 DCS459 DCS460 DCS461 DCS462 DCS463 DCS464 DCS465 DCS466 DCS467 DCS468 DCS469 DCS470 DCS471 DCS472 DCS473 DCS474 DCS475 DCS476 DCS477 DCS478 DCS479 DCS480 DCS481 DCS482 DCS483 DCS484 DCS485 DCS486 DCS487 DCS488 DCS489 DCS490 DCS491 DCS492 DCS493 DCS494 DCS495 DCS496 DCS497 DCS498 DCS499 DCS500	<b>DCS</b> DCS501 DCS502 DCS503 DCS504 DCS505 DCS506 DCS507 DCS508 DCS509 DCS510 DCS511 DCS512 DCS513 DCS514 DCS515 DCS516 DCS517 DCS518 DCS519 DCS520 DCS521 DCS522 DCS523 DCS524 DCS525 DCS526 DCS527 DCS528 DCS529 DCS530 DCS531 DCS532 DCS533 DCS534 DCS535 DCS536 DCS537 DCS538 DCS539 DCS540 DCS541 DCS542 DCS543 DCS544 DCS545 DCS546 DCS547 DCS548 DCS549 DCS550 DCS551 DCS552 DCS553 DCS554 DCS555 DCS556 DCS557 DCS558 DCS559 DCS560 DCS561 DCS562 DCS563 DCS564 DCS565 DCS566 DCS567 DCS568 DCS569 DCS570 DCS571 DCS572 DCS573 DCS574 DCS575 DCS576 DCS577 DCS578 DCS579 DCS580 DCS581 DCS582 DCS583 DCS584 DCS585 DCS586 DCS587 DCS588 DCS589 DCS590 DCS591 DCS592 DCS593 DCS594 DCS595 DCS596 DCS597 DCS598 DCS599 DCS600	<b>DCS</b> DCS601 DCS602 DCS603 DCS604 DCS605 DCS606 DCS607 DCS608 DCS609 DCS610 DCS611 DCS612 DCS613 DCS614 DCS615 DCS616 DCS617 DCS618 DCS619 DCS620 DCS621 DCS622 DCS623 DCS624 DCS625 DCS626 DCS627 DCS628 DCS629 DCS630 DCS631 DCS632 DCS633 DCS634 DCS635 DCS636 DCS637 DCS638 DCS639 DCS640 DCS641 DCS642 DCS643 DCS644 DCS645 DCS646 DCS647 DCS648 DCS649 DCS650 DCS651 DCS652 DCS653 DCS654 DCS655 DCS656 DCS657 DCS658 DCS659 DCS660 DCS661 DCS662 DCS663 DCS664 DCS665 DCS666 DCS667 DCS668 DCS669 DCS670 DCS671 DCS672 DCS673 DCS674 DCS675 DCS676 DCS677 DCS678 DCS679 DCS680 DCS681 DCS682 DCS683 DCS684 DCS685 DCS686 DCS687 DCS688 DCS689 DCS690 DCS691 DCS692 DCS693 DCS694 DCS695 DCS696 DCS697 DCS698 DCS699 DCS700
<b>OP01</b> 1-19	<b>OP01</b> 22-19	<b>OP01</b> 31-19	<b>OP01</b> 41-19	<b>OP01</b> 60-79	<b>OP01</b> 81-89
<b>POWER 1</b> 100-199	<b>SPS 1</b> 200-199	<b>BAGGER 1</b> 300-199	<b>STACKER 1</b> 400-199	<b>TERM</b> 1-199	<b>TERW</b> 1-199

## Course Objective

To provide the necessary information, resources, and hands-on activities needed to become proficient in the most common industrial components used in automation systems. Additionally, they will be able to read, interpret, and wire components according to IEC diagram prints.

## Who Should Attend

This course is recommended for maintenance personnel new to an industrial environment. No experience is necessary to attend this course.

## Course Length and Cost

Per Student Cost:	\$400 USD
Course Length:	1 Day

## Client Expectations

Students are expected to attend the entire training session to receive their certificate. Each student will identify industrial components used in automation systems. They will read one-line prints and wire components in a working configuration. In addition, make the following available:

- Computer and necessary software, including: Microsoft Office
- Internet Access

- Dry-erase board for examples, assignments, etc.
- Industrial components to fulfill course requirements. (List to be provided)

## Provider Expectations

The contractor will provide the following:

- Student Workbook with exercises
- Certain industrial components
- Certificate of Completion or Achievement
  - A completion certificate is provided to students who complete the entire class, but with no assessment
  - An achievement certificate is provided for those who complete the entire class and pass a written and programming assessment

## Course Agenda

Day 1:

- Safety
- Input Devices
  - Switches, pushbuttons, photoeyes, relay contacts, etc.
- Output Devices
  - Solenoids, relay coils, motor starters, lamps, etc.
- IEC Electrical Drawings
  - Symbols, wire numbering, cross referencing
- Proper wiring techniques
- Wiring Exercises
- Assessment

## Adjustments

It may be necessary to adjust the course curriculum depending on the students' understanding of the material. Every effort will be made to include as much information as possible.

Time permitting, troubleshooting will be incorporated into the program. Troubleshooting will be limited to software, edits, and hardware configurations unless the client provides faulty equipment to be used.

If you have questions about any part of the course or would like to modify the course curriculum, please reach out to [PO Controls](#) to discuss. Price may vary depending on the extent of changes.