# I Feel the Need, the Need for Speed — AutoCAD Electrical Automation

Brian Krystiniak & Tiffany Bachmeier

# Class summary

We are going to take dive into the Spreadsheet to PLC I/O Utility and show you how to manipulate it to automate the creation of all of your schematic drawings, not just the PLC drawings!

# Key learning objectives

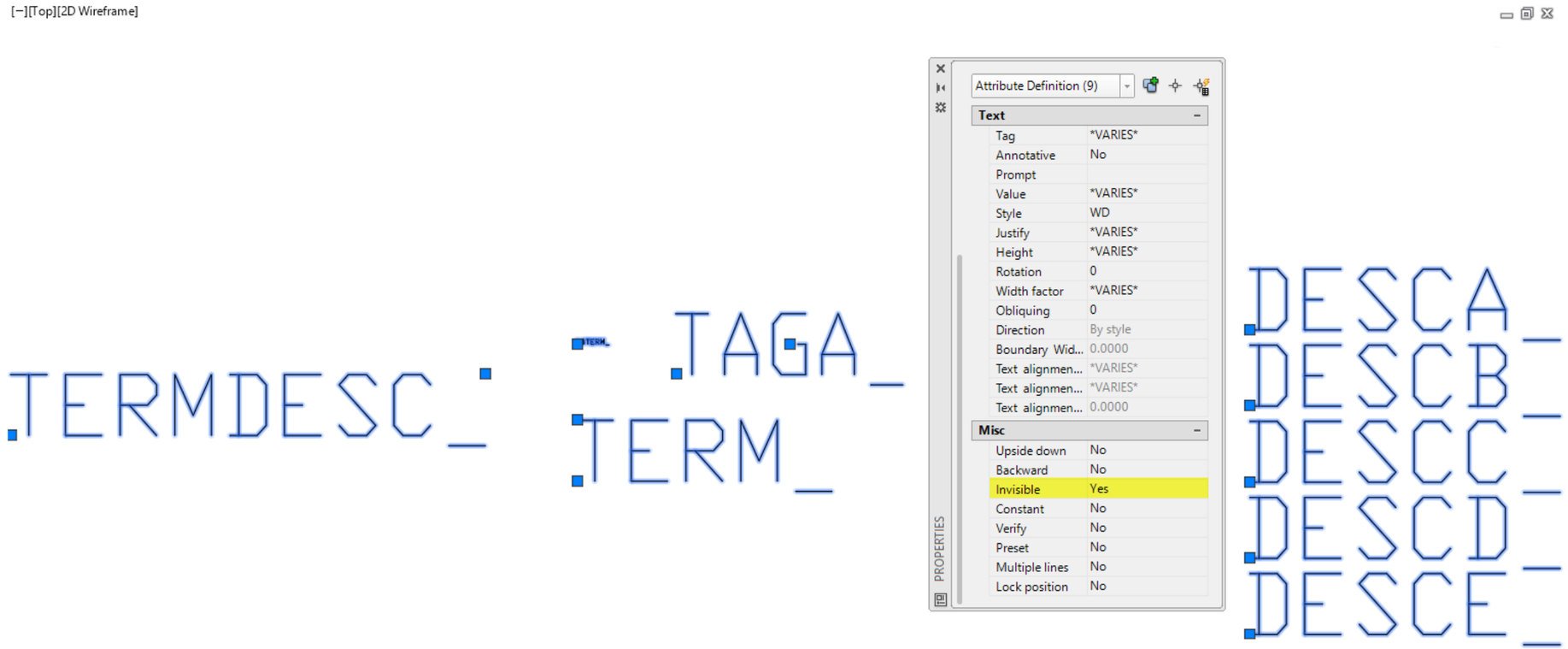
At the end of this class, you will be able to:

- Create the drawings and modules needed for schematic drawings
- Create the wdi files needed for different drawing styles
- Modify the demoplc.xls for use with all drawings
- Run the PLC I/O Utility for all drawings in the set
- Create a drawing that places a symbol on the entire drawing

# Why did we do this?

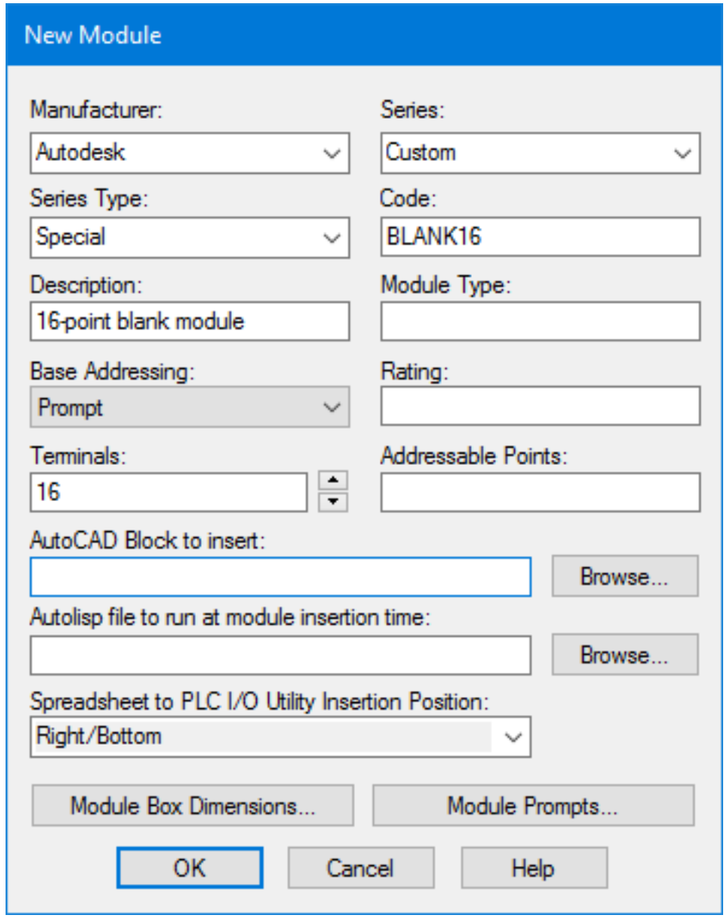
# Create Blank Drawings and Modules

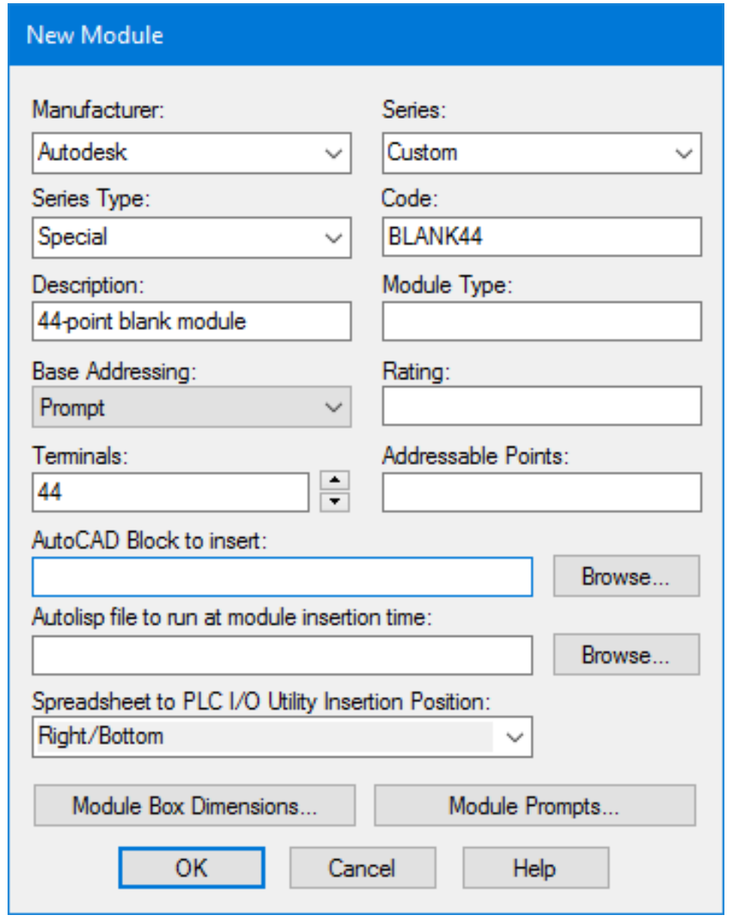
- Modify PLC drawing
- Change all Attributes to Invisible

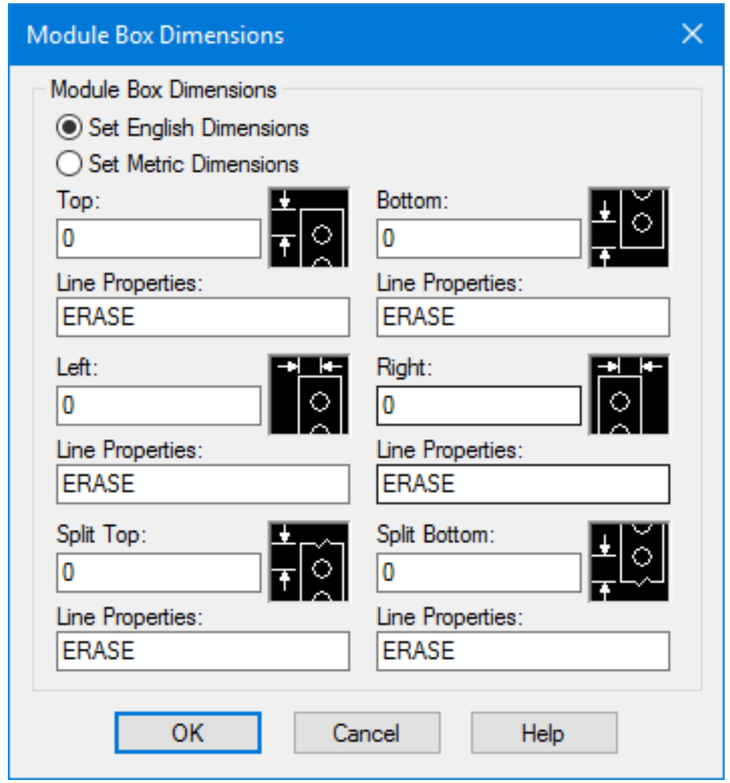


# Create Blank Drawings and Modules

- Add New Modules

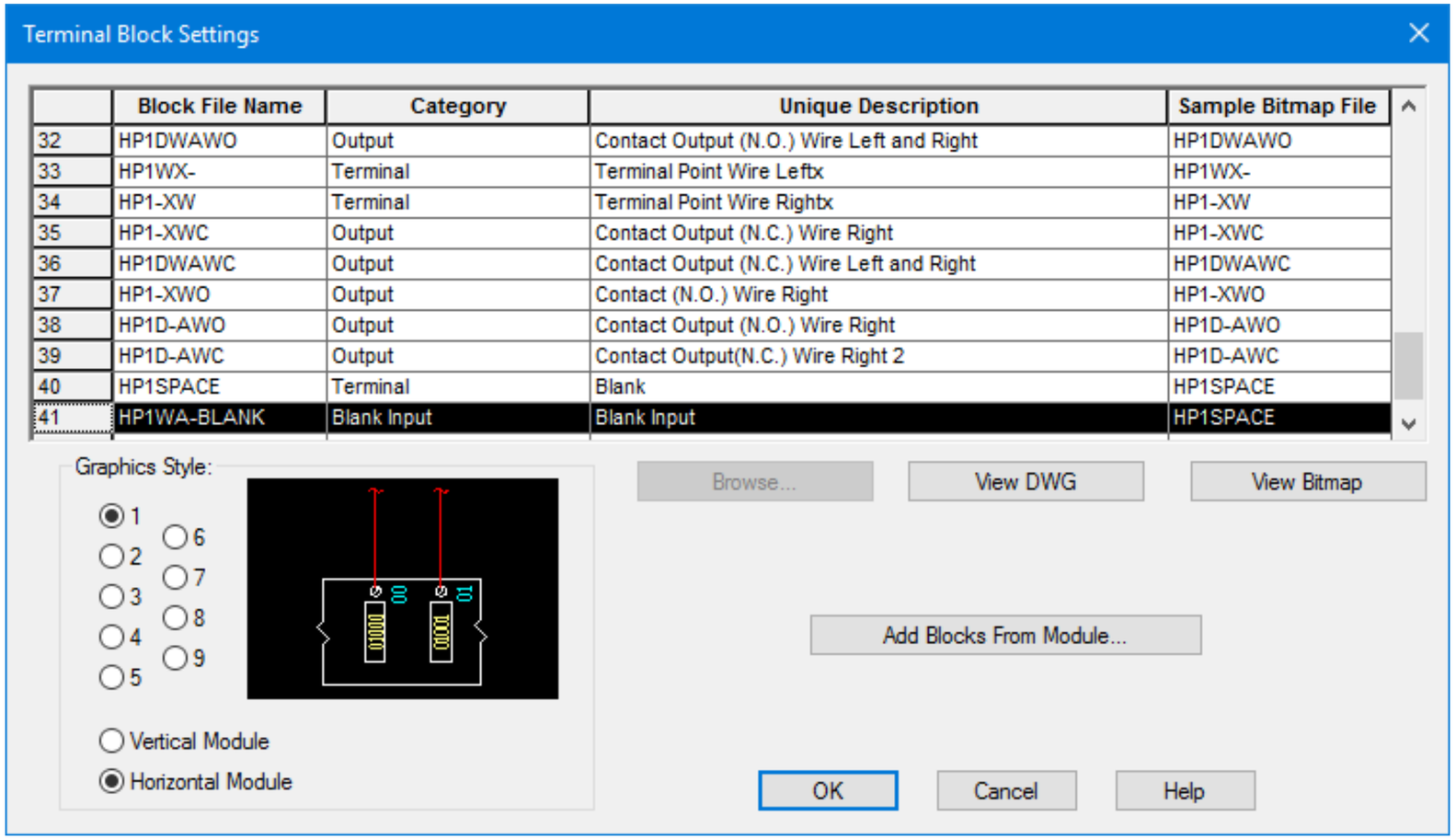


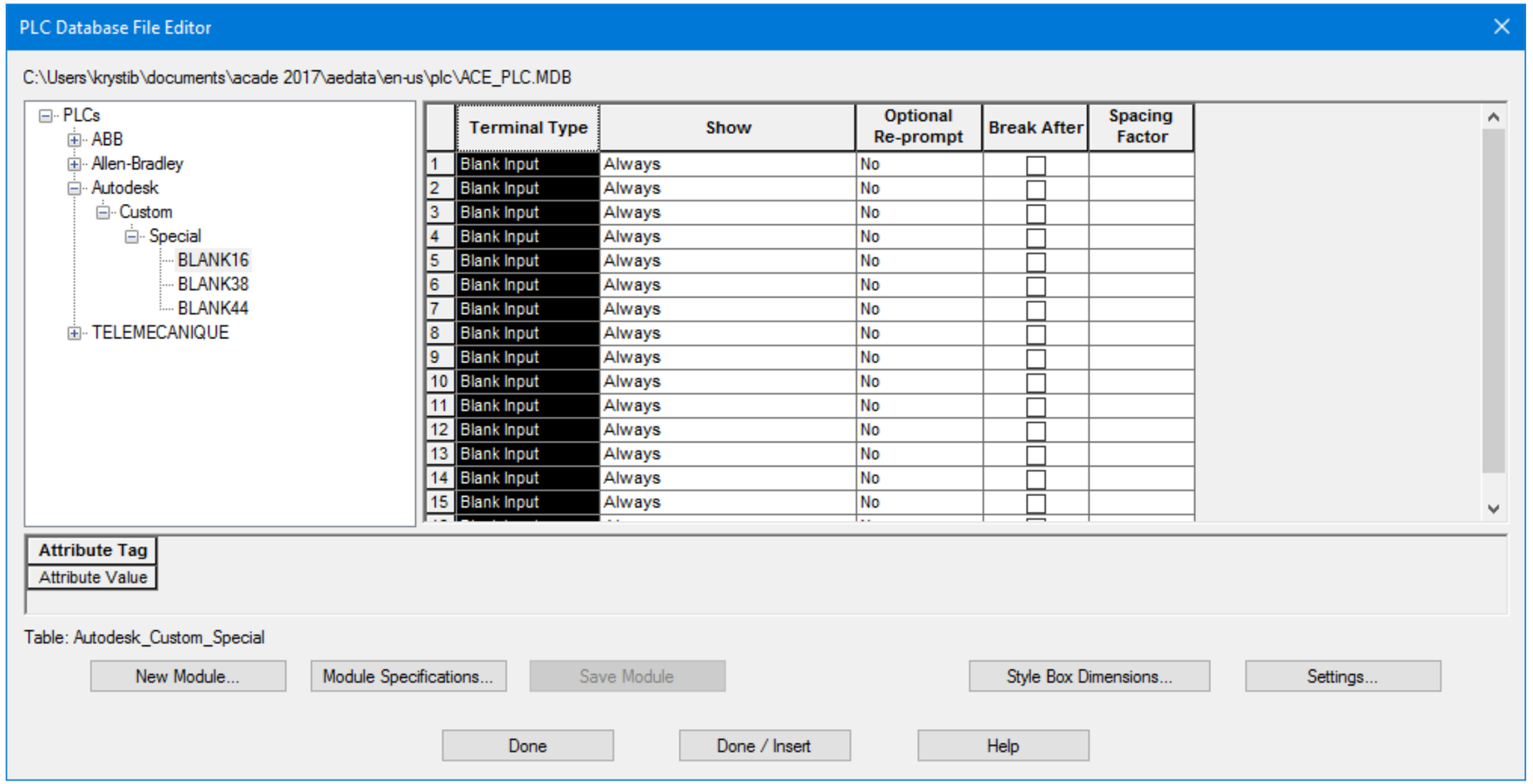
# Create Blank Drawings and Modules

- Create the Terminal Block Settings



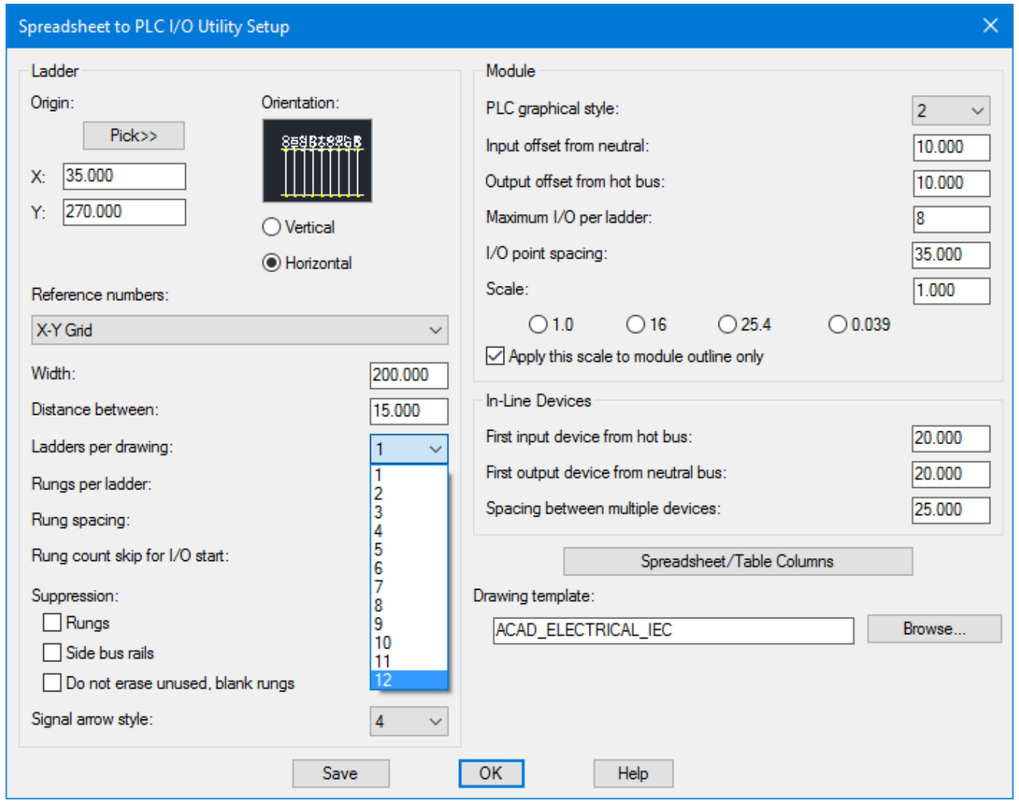
# Create Blank Drawings and Modules

- Update Terminal Type based on New Terminal Settings



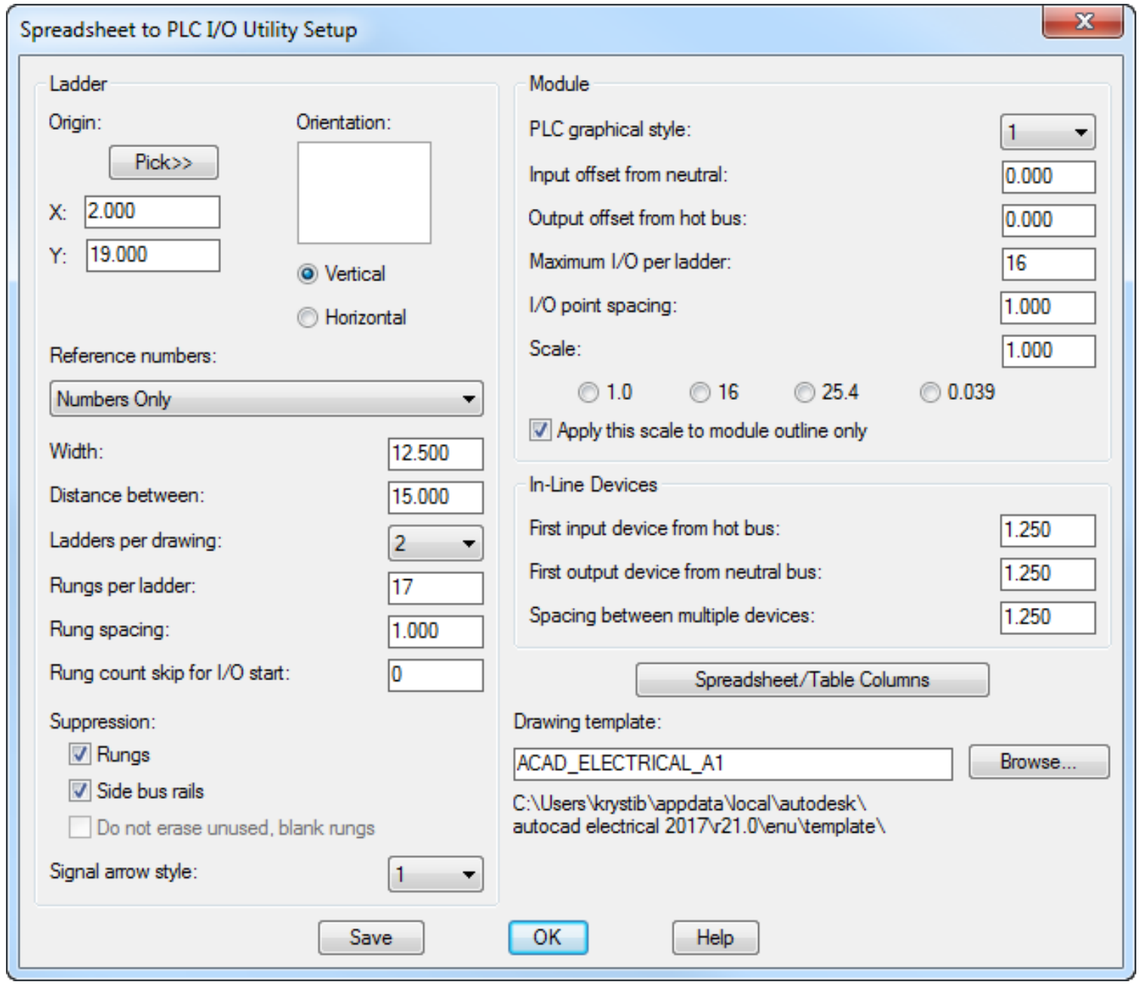
# Custom wdio Lisp and DCL Files

- wdio.lsp – Added multiple lines of code for New drawings
- wdio.dcl – Updated code to accommodate 12 Ladders per drawing



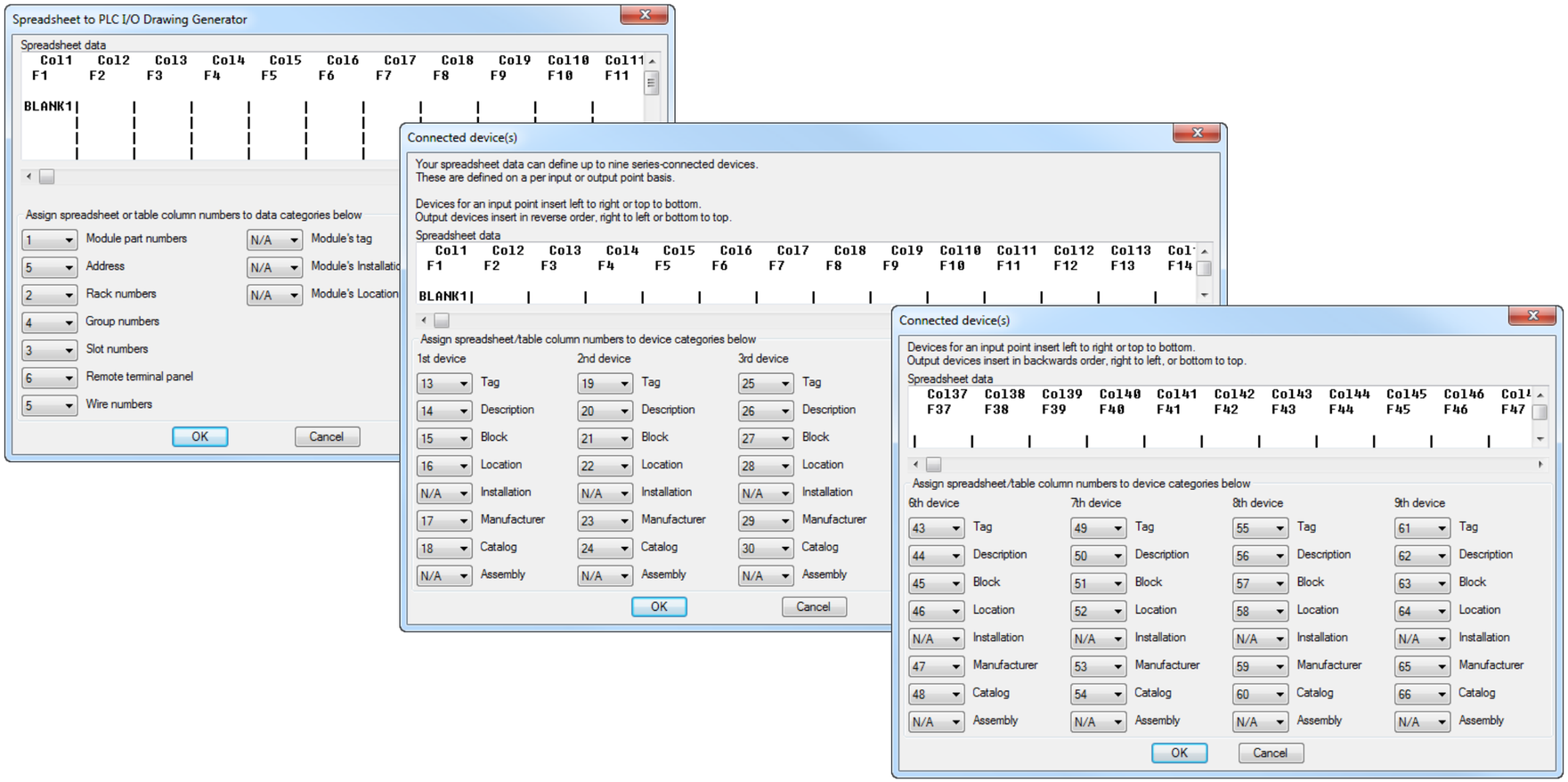
# Create WDI files

- AU2016 – MTR.wdi
- AU2016 – SCH.wdi
- AU2016 – 1769-IO.wdi
- AU2016 – 1756-IO.wdi
- AU2016 – OPSTA.wdi
- AU2016 – PANEL.wdi
- AU2016 – BLANK.wdi

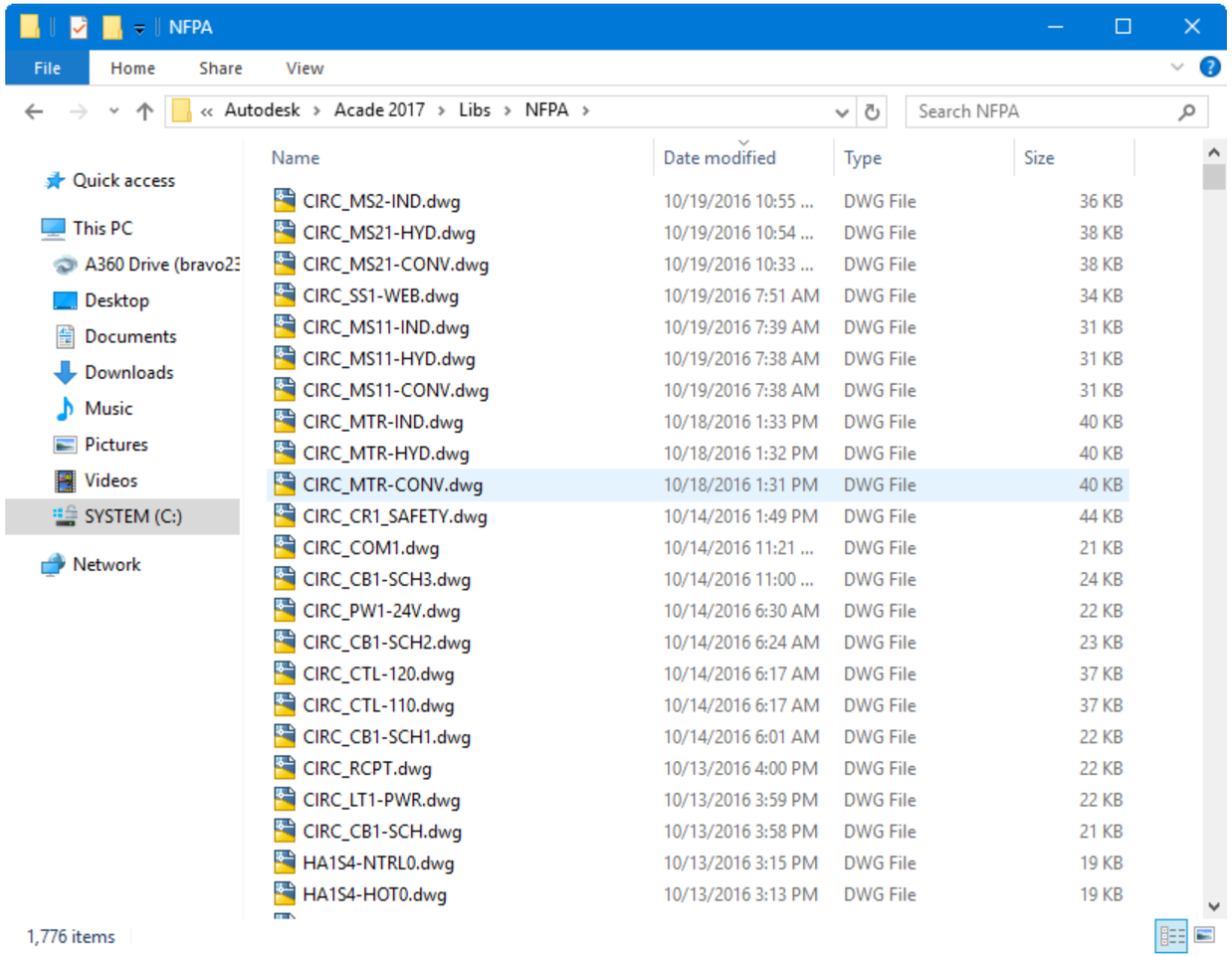


# Create WDI files

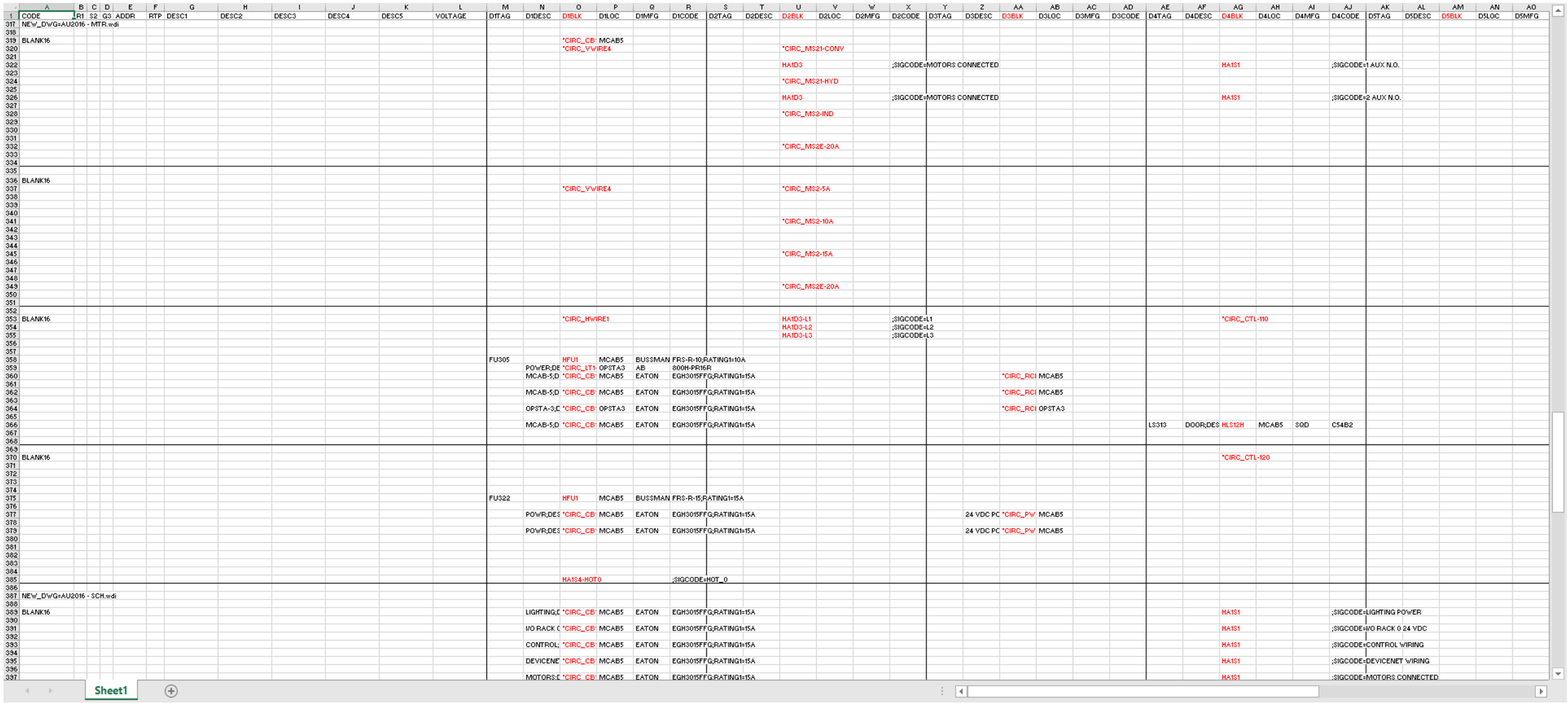
- Updated Spreadsheet/Table Columns



# Create Circuit and Symbols



# Modify PLC Spreadsheet



| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG | AH | AI | AJ | AK | AL | AM | AN | AO |
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| 1 | CODE | R1 | S2 | G3 | ADDR | RTP | DESC1 | DESC2 | DESC3 | DESC4 | DESC5 | VOLTAGE | DITAG | D1DESC | D1BLK | D1LOC | D1MFG | D1CODE | D2TAG | D2DESC | D2BLK | D2LOC | D2MFG | D2CODE | D3TAG | D3DESC | D3BLK | D3LOC | D3MFG | D3CODE | D4TAG | D4DESC | D4BLK | D4LOC | D4MFG | D4CODE | D5TAG | D5DESC | D5BLK | D5LOC | D5MFG |
| 317 | NEW_DWG=AU2016 - MTR.wdi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 318 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 319 | BLANK16 | | | | | | | | | | | | | | *CIRC_CB | MCAB5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 320 | | | | | | | | | | | | | | | *CIRC_VWIRE4 | | | | | | *CIRC_MS21-CONV | | | | | | | | | | | | | | | | | | | | |
| 321 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 322 | | | | | | | | | | | | | | | | | | | | | HA1D3 | | | ;SIGCODE=MOTORS CONNECTED | | | | | | | | | HA1S1 | | | ;SIGCODE=1 AUX N.O. | | | | |
| 323 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 324 | | | | | | | | | | | | | | | | | | | | | *CIRC_MS21-HYD | | | | | | | | | | | | | | | | | | | | |
| 325 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 326 | | | | | | | | | | | | | | | | | | | | | HA1D3 | | | ;SIGCODE=MOTORS CONNECTED | | | | | | | | | HA1S1 | | | ;SIGCODE=2 AUX N.O. | | | | |
| 327 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 328 | | | | | | | | | | | | | | | | | | | | | *CIRC_MS2-IND | | | | | | | | | | | | | | | | | | | | |
| 329 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 332 | | | | | | | | | | | | | | | | | | | | | *CIRC_MS2E-20A | | | | | | | | | | | | | | | | | | | | |
| 333 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 336 | BLANK16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 337 | | | | | | | | | | | | | | | *CIRC_VWIRE4 | | | | | | *CIRC_MS2-5A | | | | | | | | | | | | | | | | | | | | |
| 338 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 341 | | | | | | | | | | | | | | | | | | | | | *CIRC_MS2-10A | | | | | | | | | | | | | | | | | | | | |
| 342 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 345 | | | | | | | | | | | | | | | | | | | | | *CIRC_MS2-15A | | | | | | | | | | | | | | | | | | | | |
| 346 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 349 | | | | | | | | | | | | | | | | | | | | | *CIRC_MS2E-20A | | | | | | | | | | | | | | | | | | | | |
| 350 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 352 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 353 | BLANK16 | | | | | | | | | | | | | | *CIRC_HWIRE1 | | | | | | HA1D3-L1 | | | ;SIGCODE=L1 | | | | | | | | | *CIRC_CTL-110 | | | | | | | | |
| 354 | | | | | | | | | | | | | | | | | | | | | HA1D3-L2 | | | ;SIGCODE=L2 | | | | | | | | | | | | | | | | | |
| 355 | | | | | | | | | | | | | | | | | | | | | HA1D3-L3 | | | ;SIGCODE=L3 | | | | | | | | | | | | | | | | | |
| 356 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 357 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 358 | | | | | | | | | | | | | FU305 | | HFU1 | MCAB5 | BUSSMAN | FRS-R-10;RATING1=10A | | | | | | | | | | | | | | | | | | | | | | | |
| 359 | | | | | | | | | | | | | | POWER;DE | *CIRC_LT1 | OPSTA3 | AB | 800H-PR16R | | | | | | | | | | | | | | | | | | | | | | | |
| 360 | | | | | | | | | | | | | | MCAB-5;D | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | | *CIRC_RCI | MCAB5 | | | | | | | | | | | | | |
| 361 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 363 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 364 | | | | | | | | | | | | | | OPSTA-3;E | *CIRC_CB | OPSTA3 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | | *CIRC_RCI | OPSTA3 | | | | | | | | | | | | | |
| 365 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 366 | | | | | | | | | | | | | | MCAB-5;D | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | | | | | | | | LS313 | DOOR;DES | HLS12H | MCAB5 | SGD | C54B2 | | | | |
| 367 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 368 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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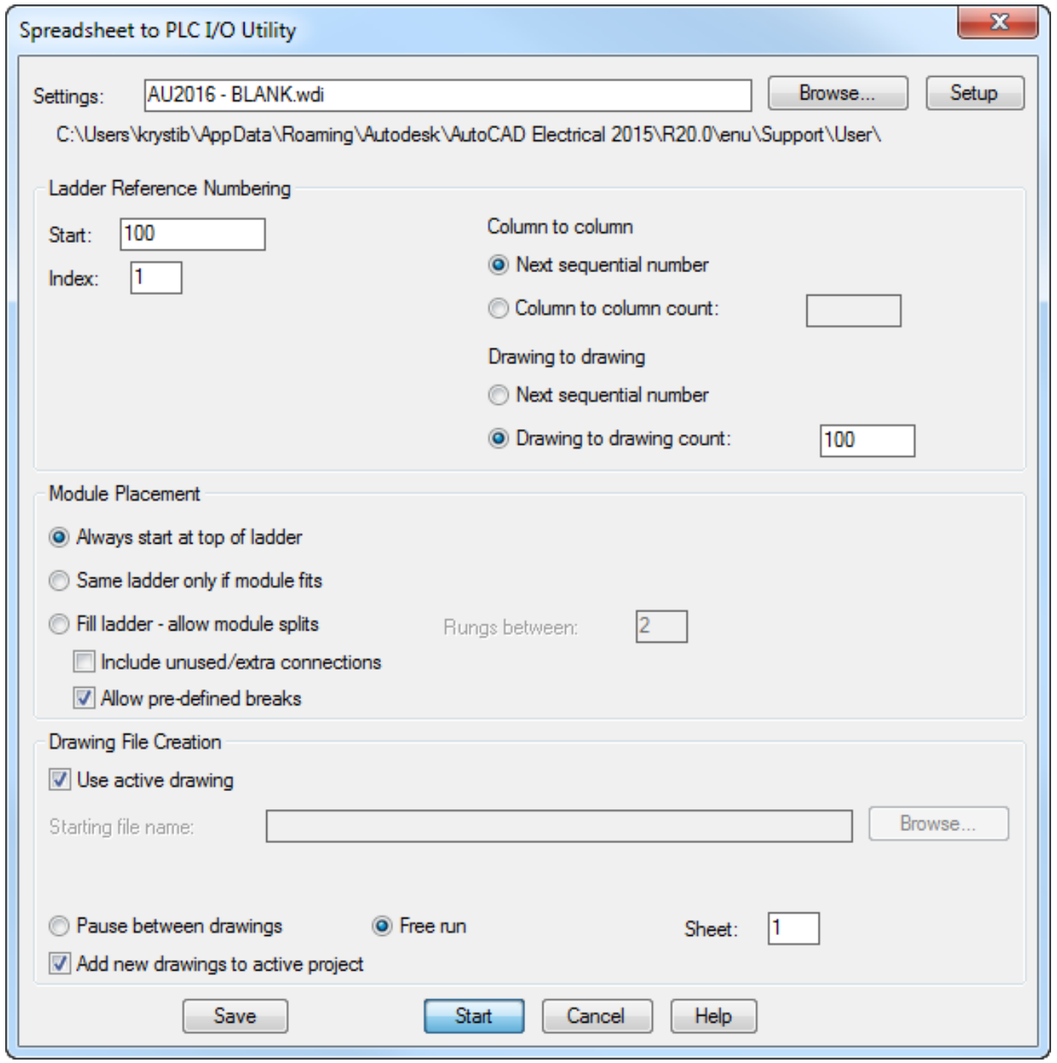
| 370 | BLANK16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | *CIRC_CTL-120 | | | | | | | | |
| 371 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 372 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 373 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 374 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 375 | | | | | | | | | | | | | FU322 | | HFU1 | MCAB5 | BUSSMAN | FRS-R-15;RATING1=15A | | | | | | | | | | | | | | | | | | | | | | | |
| 376 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 377 | | | | | | | | | | | | | | POWR;DES | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | 24 VDC PC | *CIRC_PW | MCAB5 | | | | | | | | | | | | |
| 378 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 379 | | | | | | | | | | | | | | POWR;DES | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | 24 VDC PC | *CIRC_PW | MCAB5 | | | | | | | | | | | | |
| 380 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 381 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 382 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 383 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 384 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 385 | | | | | | | | | | | | | | | HA1S4-HOT0 | | | ;SIGCODE=HOT_0 | | | | | | | | | | | | | | | | | | | | | | | |
| 386 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 387 | NEW_DWG=AU2016 - SCH.wdi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 388 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 389 | BLANK16 | | | | | | | | | | | | | LIGHTING;E | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | | | | | | | | | HA1S1 | | | ;SIGCODE=LIGHTING POWER | | | | |
| 390 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 391 | | | | | | | | | | | | | | I/O RACK 0 | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | | | | | | | | | HA1S1 | | | ;SIGCODE=I/O RACK 0 24 VDC | | | | |
| 392 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 393 | | | | | | | | | | | | | | CONTROL; | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | | | | | | | | | HA1S1 | | | ;SIGCODE=CONTROL WIRING | | | | |
| 394 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 395 | | | | | | | | | | | | | | DEVICENE | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | | | | | | | | | HA1S1 | | | ;SIGCODE=DEVICENET WIRING | | | | |
| 396 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 397 | | | | | | | | | | | | | | MOTORS;E | *CIRC_CB | MCAB5 | EATON | EGH3015FFG;RATING1=15A | | | | | | | | | | | | | | | | HA1S1 | | | ;SIGCODE=MOTORS CONNECTED | | | | |

Sheet1

# Run PLC I/O Utility



# AutoCAD Electrical Track Classes Up Next

Thursday - 8:30am *GEN21987*

A New Kind of Dewey Decimal for Your Library

Thursday - 1:00pm *GEN21261* *(late addition)*

Get Powered Up: How to Implement AutoCAD Electrical

# Be heard! Provide AU session feedback.

- Via the Survey Stations, email or mobile device.
- Give your feedback after each session.
- Give instructors feedback in real-time.
- You get a chance to win great prizes!


SOOOOO...
ANY QUESTIONS?
memes.com