AUTOCAD ELECTRICAL QUICK REFERENCE GUIDE

AutoCAD® Electrical File Descriptions & Directory Locations

Reference files should be located in a shared directory or folder when you want to share changes to files with all users for common projects.

ENVIRONMENT FILE

Windows® 7/8/10 Location:

C:\Users\{username}\Documents\Acade{version}\AeData\wd.env

SYMBOL BLOCK LIBRARIES

Windows® 7/8/10 Location:

C:\Users\Public\Public Documents\Autodesk\AcadE {version}\Libs

INSERT COMPONENT ICON MENUS

Windows® 7/8/10 Location:

C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\{release}\{country code}\Support

All .DAT Files (i.e. ACE_NFPA_MENU. DAT): These are text files of all of the icon menus of all of the symbols per electrical standard that you can also customize to meet your needs.

DATABASES

Windows® 7/8/10 Location:

C:\Users\{username}\My Documents\Acade{version}\AeData\ {country code}\Catalogs

DEFAULT_CAT.MDB: This is the Part Catalog Database.

FOOTPRINT_LOOKUP.MDB: This is the database for mapping the graphical footprint assignments to catalog part number assignments.

SCHEMATIC_LOOKUP.MDB: This is the database for mapping panel footprints and terminal representations to the equivalent schematic component block names.

WD_LANG1.MDB: This is the default language table.

WD_PICKLIST.MDB: This is the user-defined pick list that schematic or panel symbols can be inserted from.

Windows® 7/8/10 Location:

C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\{release}\{country code}\Support\User

WD_FAM.DAT: Overrides the family tag code of the library symbols by mapping the codes to new values.

CIRCUIT BUILDER

Windows® 7/8/10 Location:

C:\Users\Public\Public Documents\Autodesk\AcadE {version}\ Support\{country code}

ACE_CIRCUIT_BUILDER.XLS: This is the reference file that the Circuit Builder tool uses.

DIN RAILS

Windows® 7/8/10 Location:

C:\Users\{username}\My Documents\Acade {version}\AeData\ {country code}\Catalogs

WDDINRL.XLS: This is the reference file that generates Din Rails.

PLCs

Windows® 7/8/10 Location:

C:\Users\{username}\My Documents\Acade {version}\AeData\{country code}\ Plc

ACE_PLC.MDB: This is the database for creating and modifying PLC modules.

Windows® 7/8/10 Location:

C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\{release}\{country code}\Support\User

<custom name>.WDI (default settings in WDIO.LSP): This is the PLC settings file for the Spreadsheet to PLC I/O Utility. (**Note**: If you do not create a WDI file, the default settings found in the WDIO.LSP file will be used.)

Windows® 7/8/10 Location:

C:\Program Files\Autodesk\AutoCAD {version}\Acade\Support\ en-US\Shared

WDIO.LSP: The program file for the Spreadsheet to PLC I/O utility.

WDIO.DCL: The companion dialog definition file for the Spreadsheet to PLC I/O utility.

SHARED REFERENCE FILES

Windows® 7/8/10 Location:

C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\{release}\{country code}\Support

DEFAULT.INST: This file provides preset values for installation codes.

DEFAULT.LOC: This file provides preset values for location codes.

DEFAULT.WDA: This is the reference file for user-defined attributes on blocks.

DEFAULT.WDT: This is the attribute mapping support file for the Title Block Update tool.

DEFAULT_WDTITLE.WDL: Customizes the generic LINEx labels in the various title block and project information dialog boxes.

WD_DESC.WDD: This contains preset component descriptions, accessible by clicking Defaults on the Insert/Edit Component dialog box. Family-specific versions of the file can also be created, such as *pb.wdd*.

WD_RATINGS.WDR: Generic Ratings file, accessible by clicking the Defaults button in the Show all Ratings subdialog box of the Insert/Edit Component db.

WDSRCDST.WDD: Generic list of descriptions for Source & Destination signals, accessible by clicking the Defaults button in the Insert Source/Destination dbs.

Windows® 7/8/10 Location:

C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\{release}\{country code}\Support\User

DEFAULT.WDU: This file saves the settings in the Title Block Update dialog box when the "Save" button is selected in said dialog box.

DEFAULT.WDW: Maps color and gauge wire descriptions based on wire layers.

NOTE: You can always override the shared reference files with by locating a copy of the reference file in the same directory as the project (WDP) file. You can also make a project-specific reference file in the same directory as the project (WDP) file. Just rename the copied reference file to the same name as the project, for example *projectname.wdt*

AUTOCAD ELECTRICAL FAMILY CODES

- **AM**: Ammeters
- **AN**: Buzzers, horns, bells
- **CB**: Circuit breakers
- **C0**: Connectors/pins
- **CR**: Control relays
- **DI**: Din Rail
- **DN**: Device networks
- **DO**: Diodes
- **DR**: Drives
- **DS**: Disconnect switches
- **EN**: Enclosures/hardware
- **FM**: Frequency meters
- **FS**: Flow sensors
- **FT**: Foot switches
- **FU**: Fuses
- **LR**: Latching relays
- **LS**: Limit switches
- **LT**: Lights, pilot lights
- **MISC**: Miscellaneous
- **MO**: Motors
- **MS**: Motor starters/contactors
- **NP**: Nameplates
- **OL**: Overloads
- **PB**: Push buttons
- **PE**: Photo switches
- **PLCIO**: Programmable logic controllers
- **PM**: Power meters
- **PNEU-ACT**: Actuators
- **PNEU-ALU**: Lubricators
- **PNEU-CYL**: Cylinders
- **PNEU-FLC**: Flow Control
- **PNEU-FLT**: Filters
- **PNEU-MET**: Pressure Gauges
- **PNEU-MFL**: Silencers
- **PNEU-MNF**: Manifolds
- **PNEU-MOT**: Motors
- **PNEU-NOZ**: Nozzles
- **PNEU-OPR**: Push buttons
- **PNEU-PMP**: Pumps
- **PNEU-TNK**: Reservoirs
- **PNEU-VAC**: Suction
- **PNEU-VLV**: Valves
- **PS**: Pressure switches
- **PW**: Power supplies
- **PX**: Proximity switches
- **RE**: Resistors
- **SS**: Selector switches
- **SU**: Surge suppressors
- **SW**: Toggle switches
- **TD**: Timer relays
- **TRMS**: Terminal blocks
- **TS**: Temperature switches
- **VM**: Volt meters
- **WO**: Cables, multi-conductor cables
- **WW**: Wire ways
- **XF**: Transformers

AUTODESK.

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SCHEMATIC ATTRIBUTES FOR PARENT AND CHILD COMPONENTS

TAG1: (Parent only) required component tag name (64 max)
   TAG1_PART1, **TAG1_PART2**, and **TAG1_PARTX**: Alternate to using a single TAG1 attribute in order to split the TAG into two pieces
TAG2: (Child only) Copy of the parent component's tag
   TAG2_PART1, **TAG2_PART2**: same as above
COPYTAG: a copy of the TAG value
MFG: manufacturer name or code (24 characters max)
CAT: catalog part number assignment (60 characters max)
ASSYCODE: optional subassembly code (60 characters max)
ITEM: the item or detail number for a component
FAMILY: component's family type, used as a check at the time child components are linked to a parent
DESC1, **DESC2**, **DESC3**: component's description (60 max)
INST: component installation code (24 characters max)
LOC: component location code (16 characters max)
XREFNO, **XREFNC**: (Parent only) normally open and normally closed cross-reference annotation
XREF: used to include non-NO/NC references
COMMON: defines which TERMxx attribute receives the first PINLIST value

POSn: mark switch position text where "n" is the position number digit (POS1 - POS12; 36 characters max)
CONTACT: only on contact symbols for NO or NC values
STATE: Contact state text to denote relationship between switch positions and open/closed contact state
RATINGn: Rating value where "n" is the rating number digit (RATING1 - RATING12; 60 characters max)
X?LINK: allows you to tie in dashed link lines automatically between related components ("?"= 1,2,4, or 8)
PINLIST: (Parent only) stores the contact pin list for the child contacts of the parent (no limit on characters)
WDTAGALT: (Parent only) for a peer-to-peer relationship
WDTYPE: Attribute used to define the component category
WD_WEBLINK: (Parent Only) for Internet URL's, .pdf, .xls, or .doc links that can be surfed on
X?TERMn: Wire connection attributes where an external wire connects to the origin point of the attribute
X?TERMDESCn: Wire connection description attributes that match up with X?TERMn (128 characters max)
TERMn: Terminal pin number (ten characters max)
WD_JUMPERS: to internally jumper terminals together

SCHEMATIC SYMBOL NAMING CONVENTION QUICK REFERENCE

1. The first character is either H or V for horizontal or vertical wire insertion, respectively.
2. The next two characters are reserved for family type (for example, PB for push buttons, CR for control relays, LS for limit switches).
3. The fourth character is generally a 2 for child contacts or a 1 for everything else (parent or stand-alone components).
4. If the symbol is a contact, then the fifth character is a 1 for normally open or 2 for normally closed.
5. Any additional characters are not specified in the naming convention. They are used to keep names unique.

NOTE: Do not use "HH", "HV", "VH", or "VV" as the first two characters of a symbol block name.

TERMINALS:
   The first two characters are "HT."
   The third character is "0" if the wire number does not change through the terminal, "1" if the terminal symbol should trigger a wire number change.
   The fourth character is an underscore (_) if the terminal carries no attributes for AutoCAD Electrical to process (such as a dumb terminal symbol). Otherwise, the fourth through eighth character positions of the symbol file name are user-defined.

AUTOCAD ELECTRICAL SUPPORT DIRECTORIES QUICK REFERENCE

Windows 7/8/10 Location:
   C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\{release}\{country code}\Support
   C:\Program Files\Autodesk\ AutoCAD {version}\Acade\Support\{country code}
   C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\{release}\{country code}\Support
   C:\Users\Public\Public Documents\Autodesk\AcadE {version}\Support\{country code}

INCLUDED SYMBOL LIBRARIES

NFPA (U.S./Inches)
IEEE (U.S., International/Millimeters)
JIC (U.S./Inches - Legacy library only)
IEC-60617 (Europe, International/Millimeters)
IEC Legacy (Millimeters - Legacy library only)
JIS (Japan/Millimeters)
GB (China/Millimeters)
AS (Australia/Millimeters)
PNEU (Pneumatic/Inches & Millimeters)
HYD (Hydraulic/Inches & Millimeters)
PID (Piping & Instrumentation/Inches & Millimeters)

REPLACEABLE PARAMETERS

%F: Component family code string (for example, "PB," "SS," "CR," "FLT," "MTR")
%S: Sheet number of the drawing (for example, "01")
%D: Drawing number
%G: Wire layer name
%N: Sequential or Reference-based number applied to the component
%X: Suffix character position for reference-based tagging (not present = end of tag)
%P: IEC-style project code (default for drawing)
%I: IEC-style installation code (default for drawing)
%L: IEC-style location code (default for drawing)
%A: Project drawing list's SEC value for active drawing
%B: Project drawing list's SUB-SEC value for active drawing