DESIGNLINK CALC · calc.designlink.in

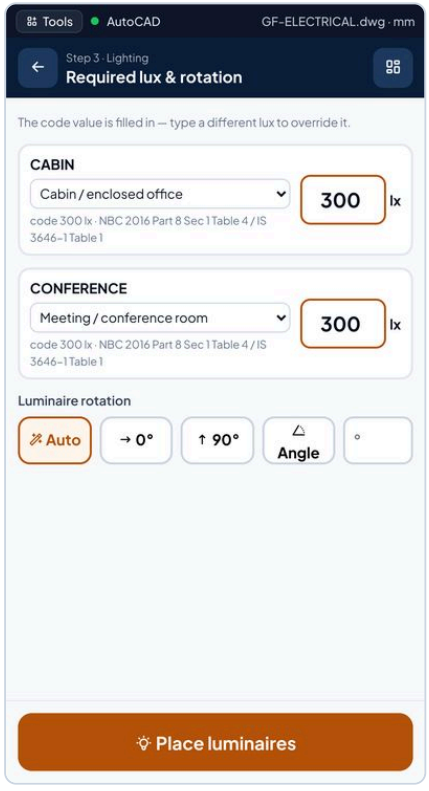
DesignLink CAD plugin

How to use it — click by click, with a screenshot of every screen

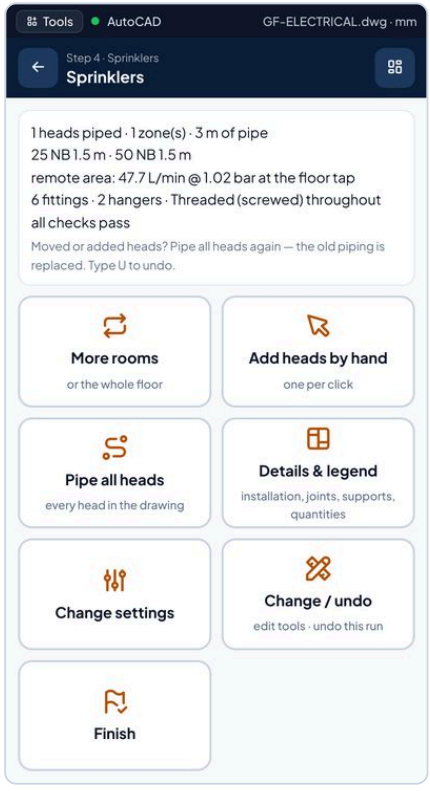
For AutoCAD 2023 – 2027 and ZWCAD 2024 – 2026. Lighting, power, wiring, fire alarm, sprinklers, toilets, ELV, earthing, gas suppression, car-park ventilation, HVAC, cable trays, HVLS fans, quantities, DIALux, CPWD DSR BOQ and 57 quick drafting tools — designed and drawn in your own drawing.



Drive mode — What do you want to place?



Lighting — required lux & rotation



Sprinklers — every head piped

Plugin 1.8 · October 2026 · calc.designlink.in/guide/cad

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1 What you need

The plugin draws your services into the open AutoCAD or ZWCAD drawing: you pick rooms and points in the drawing, the palette works out the design and draws the result on its own layers.

Item	Requirement
Windows	Windows 10 / 11, 64-bit. Administrator rights to install.
AutoCAD	AutoCAD 2023, 2024, 2025, 2026 and 2027, including verticals (MEP, Architecture, Electrical, Map 3D, Civil 3D). **AutoCAD LT is not supported** — LT cannot load plugins.
ZWCAD	ZWCAD 2024, 2025 and 2026.
Internet	The palette pages load from calc.designlink.in, so the PC must be online.
Account	A DesignLink login (company users) or a calc.designlink.in sign-in. The plugin is free to download and use — every drawing it makes is free. Design reports and Excel files (schedules, BOQ) need a design credit or a plan (section 4).
Drawing	A plan with walls on their own layer works best. Model space, any units (mm, cm, m, inch, feet) — Setup tells the plugin which one.

2 Download and install

One installer covers every supported AutoCAD and ZWCAD on the PC.

1. Download **DesignLinkCAD-Setup.exe** from calc.designlink.in/cad/download (or use the copy attached to the e-mail).
2. **Close every AutoCAD and ZWCAD window.** If one is still open, Setup stops with "AutoCAD / ZWCAD is running and has the DesignLink plugin loaded. Close every AutoCAD and ZWCAD window, then press Retry." Close it and press **Retry**.
3. Double-click the file and accept the Windows administrator prompt. Click **Next** / **Install** with the default folder (C:\Program Files\DesignLink\CAD). If the Microsoft Edge WebView2 runtime is missing, Setup installs it ("Installing Microsoft Edge WebView2 runtime…").
4. Click **Finish**. Nothing else to configure — AutoCAD loads the plugin automatically from the next start; ZWCAD is registered for every version found.

Updating: close AutoCAD / ZWCAD and run the new Setup — it replaces the old plugin completely. **Uninstall:** Windows Settings → Apps → "DesignLink CAD". To also forget the sign-in, delete the folder `%LOCALAPPDATA%\DesignLink\CAD` .

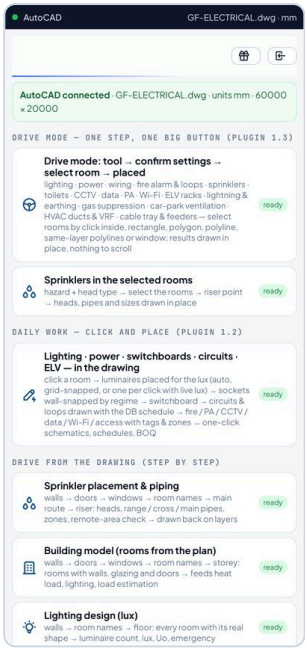
ZWCAD installed after the plugin? Type `NETLOAD` once and pick `C:\Program Files\DesignLink\CAD\ZWCAD\DesignLinkCAD.ZWCAD.dll` , then type `DLAUTOLOAD` — from then on it loads by itself. Or simply run Setup again.

3 Open the palette

There is no ribbon or menu — everything starts from a typed command.

1. Start AutoCAD / ZWCAD and **open your drawing** (the palette needs an open drawing).

2 Type `DESIGNLINK` and press Enter. The **DesignLink calc** palette docks on the right. A dark bar on top shows the CAD, a green dot and the drawing name with its units. Below it is the tool menu: **Drive mode**, **Daily work**, the step-by-step website tools that read the drawing, the sewer / storm wizards and **Place a drawing**.



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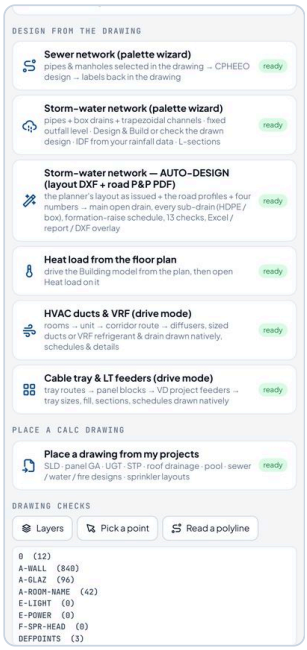
3 The **Drawing checks** at the bottom are a quick test that the palette talks to the drawing: **Layers** lists every layer with its object count, **Pick a point** and **Read a polyline** ask you to click in the drawing.



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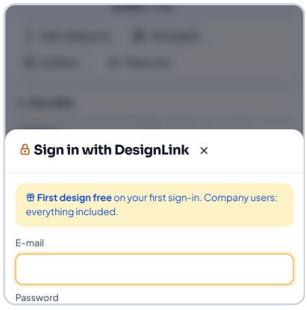
Palette not showing (seen on some ZWCAD 2024 PCs)? The plugin opens the same page in a floating window by itself; `DLWINDOW` forces that window. `DLHOME` brings the palette back to the tool menu from anywhere.

Type	What happens
`DESIGNLINK` or `DLPALETTE`	open / show the palette
`DLD`	open Drive mode on its home screen (the fastest way to work)
`DLHOME`	palette back to the tool menu
`DLWINDOW`	open DesignLink in a separate floating window
`DLHELP`	list every quick tool and drive shortcut on the command line
`DLLOGOUT`	sign out of the palette

4 Sign in, credits and plans

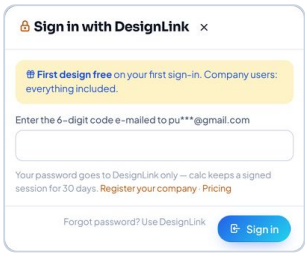
The plugin is free: placing, circuiting, piping, tagging and every drawing it puts in your CAD file cost nothing. Only the design reports and the Excel files need a design credit or a plan.

1 Click **Sign in** in the top bar of the palette. Type your **DesignLink e-mail and password** and click **Sign in**. The first sign-in gives one design free.



Daily work — lighting, power, ELV in the drawing — designlink calc

2 A **6-digit code** is e-mailed to you (it is valid for 10 minutes). Type it and click **Sign in**. Accounts with an authenticator app are asked for the authenticator code instead. The palette remembers the sign-in for 30 days.



Daily work — lighting, power, ELV in the drawing — designlink calc

3 The first time only, read the short disclaimer, tick the box and click **I agree — continue**.

Action in the plugin	Needs
Open the palette, select rooms, place lights / sockets / devices, switch boards, DB, circuit & loop, tag & zone, quantities on screen	nothing — free
Your own symbols and layer names saved for next time; your project list in Place a drawing	sign-in
Details & legend sheets, schematics, piping / loops drawings, Place a drawing, sewer plan & L-sections — drawn in CAD	nothing — free
Design reports (calculations, checks, BOQ), Schedules Excel, CPWD DSR BOQ Excel	a design credit or a plan

One design credit unlocks one project for 30 days — every output, re-run and re-download. Company users of a registered DesignLink company and Unlimited plans have everything included. When a report or Excel needs a credit the palette shows **Get this design**: sign in for the free design, buy one, or buy a pack.

5 Drive mode and the expert view

Daily work has two faces. **Drive mode** shows one decision per screen with big buttons and nothing to scroll — this is what the guide uses. The **expert view** shows every button at once (section 30).

1 Type **DLD** (or choose **Drive mode** in the tool menu). The home screen asks **What do you want to place?** — 18 design tools on top, then **CPWD DSR BOQ**, **Quick tools**, **Change & number**, **Cable tray control**, **Loop optimiser**, **Quantities**, **DIALux** and **Setup**.



What do you want to place?

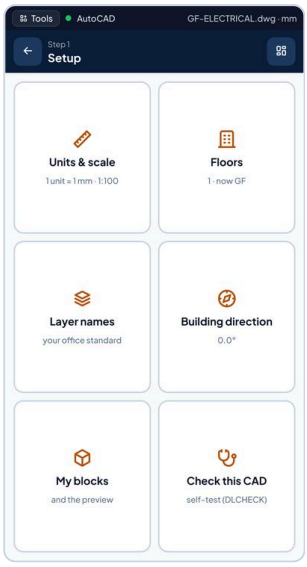
Every screen has the same header: the **back arrow** (left) goes one step back, the title says what to do now, the small line above it shows the step and the tool. When the drawing has more than one floor, an orange **floor button** shows the current floor — click it to switch. The **dashboard icon** (right) opens the expert view; the **Drive** button there comes back.

Shortcut	Opens	Shortcut	Opens
DLL	Lighting	DLHV	HVAC ducts & units
DLP	Power points	DLCP	Car-park ventilation
DLF	Fire alarm devices	DLEA	Lightning & earthing
DLFL	Fire alarm loops	DLGS	Gas suppression
DLS	Sprinklers	DLEL	ELV cabling & racks
DLW	Wiring & looping	DLHF	HVLS fans
DLT	Cable tray & feeders	DLE / DLN / DLU	Change what was placed / Numbering / Undo
DLTO	Toilet plumbing	DLCT / DLLO	Cable tray control / Loop optimiser
DLQT	Quick tools	DLQ / DLDX	Quantities / DIALux
DLSET	Setup	DLAX	Building direction

6 First time in a drawing: Setup

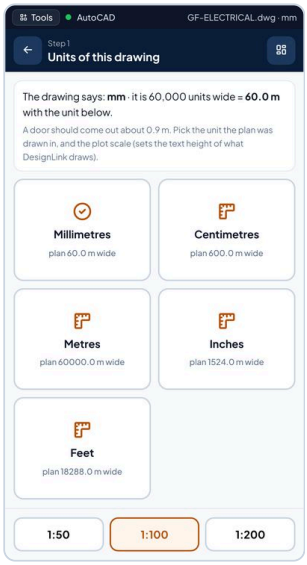
Two minutes of setup per drawing makes every tool right first time: the drawing units, the floors, your office layer names and your own blocks.

1 Type `DLSET` (or Drive home → **Setup**). Six tiles: **Units & scale**, **Floors**, **Layer names**, **Building direction**, **My blocks** and **Check this CAD**.



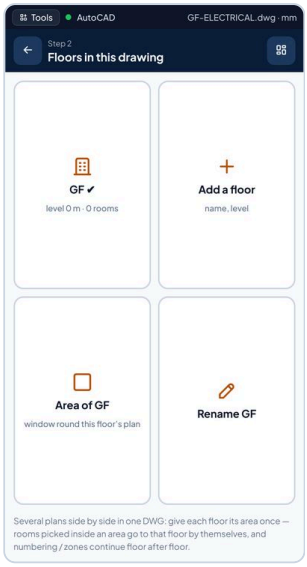
Setup

2 **Units & scale** — the palette reads the drawing units and shows how wide the plan comes out with each unit ("plan 60.0 m wide"). Click the unit that gives the real building size (a door ≈ 0.9 m), then the **plot scale** (1:50 / 1:100 / 1:200) — text heights of everything drawn follow it.



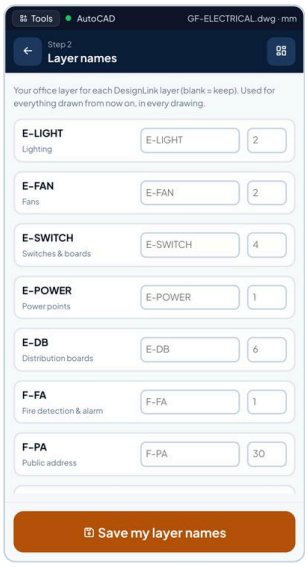
Units of this drawing

3 **Floors** — one drawing can hold several floors. **Add a floor** asks the name and level; **Area of GF** lets you window round that floor's plan so rooms picked inside it go to that floor automatically; **Rename** renames the current floor.



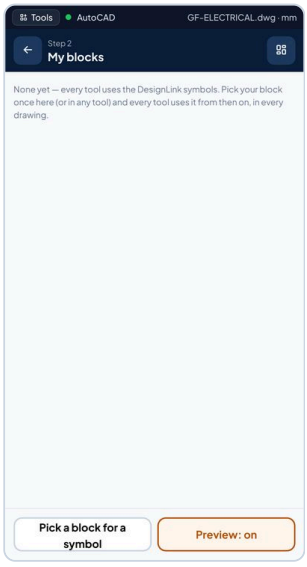
Floors in this drawing

4 **Layer names** — type your office layer for each DesignLink layer (blank keeps the DesignLink name) and click **Save my layer names**. Used for everything drawn from now on, in every drawing (sign-in needed to keep them).



Layer names

5 **My blocks** — **Pick a block for a symbol**: choose a DesignLink symbol, then click your own block in the drawing. From then on every tool places your block (TAG / CKT go into its attributes when it has them). **Preview** switches the cyan ghost preview on or off.



My blocks

6 **Building direction** — rows of lights, loops and routes follow the building. **Pick a wall / grid line** (most buildings), **From the UCS**, **Square to the sheet** (0°) or **Type an angle**.

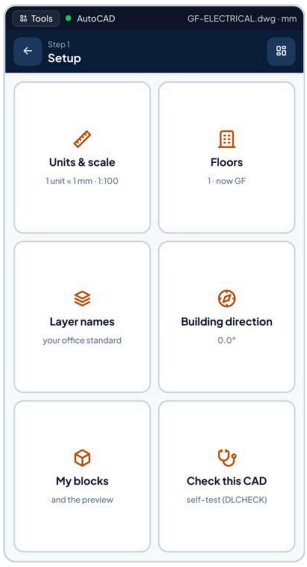


Building direction — now 0.0°

7 **Check this CAD** runs `DLCHECK`: click an empty spot, the plugin tries every drawing operation on a scratch layer, removes the test objects and prints PASS / FAIL lines — send that text to support when something does not work.

IN THE DRAWING — COMMAND LINE

```
> Click an empty spot for the test objects (they are removed again):
```



Setup

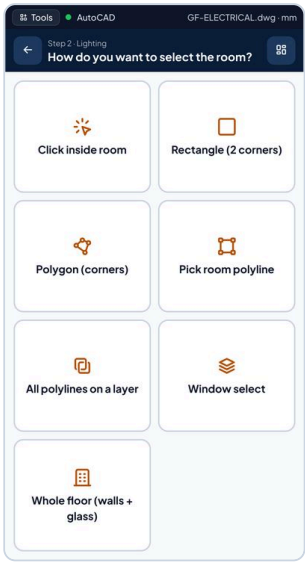
7 Selecting rooms — the same in every tool

Every tool that works on rooms shows the same picker with the same tiles in the same order.

1 **How do you want to select the room?** — pick one way:
Click inside room click inside each room, Enter when done · **Rectangle (2 corners)** · **Polygon (corners)** click every corner, click the first again to close · **Pick room polyline** closed polylines, also inside an xref · **All polylines on a layer** pick one room polyline and every closed polyline on its layer becomes a room · **Window select** window over room polylines · **Whole floor (walls + glass)** every room of the floor from the wall layers.

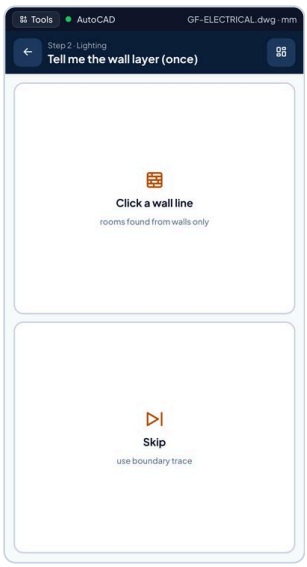
IN THE DRAWING — COMMAND LINE

```
> Click inside a room — Enter to finish:
> First corner of the room: / Opposite corner:
> Next corner — click the first corner, C or Enter to close, U to undo:
```



How do you want to select the room?

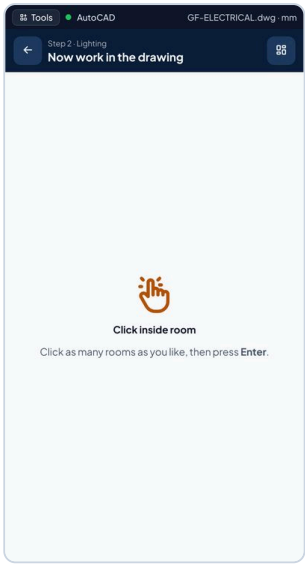
2 The first time you use **Click inside room**, the palette asks **Tell me the wall layer (once)**. Click **Click a wall line** and click any wall in the drawing: rooms are then found from the walls only, with door gaps closed. **Skip** uses the CAD boundary trace instead (door openings may leak).



Tell me the wall layer (once)

3 **Now work in the drawing** — the palette waits while you click. Click inside as many rooms as you like and press **Enter**. Room names come from the texts inside each room.

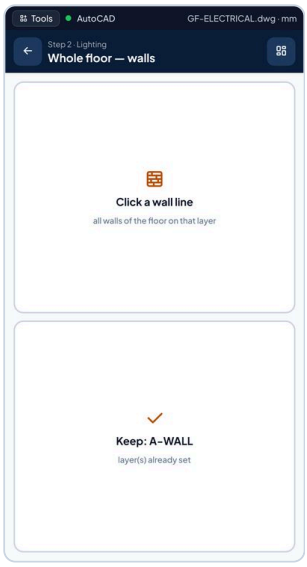
```
IN THE DRAWING — COMMAND LINE
> Click inside a room (2 selected) — Enter to finish:
```



Now work in the drawing

4 **Whole floor** asks three layers, one click each: the **wall** layer, the **glass / window** layer (No glass layer if none) and a **room-name text** (Skip names if none). Every closed room of the floor is found at once.

```
IN THE DRAWING — COMMAND LINE
> Click a wall line
> Click a glass / window line
> Click a room-name text
```



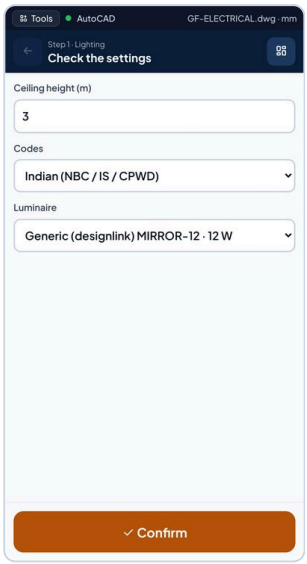
Whole floor — walls

Walls inside an xref or a block are read too (plugin 1.8). If a room will not close, use Rectangle, Polygon or Pick polyline for that room.

8 Lighting

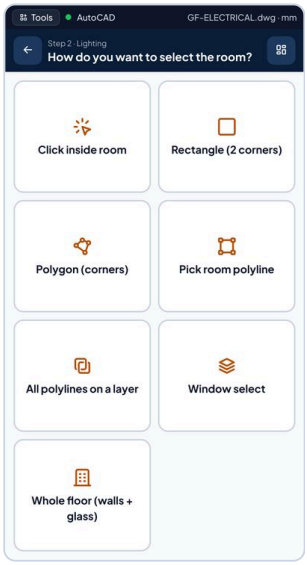
Luminaires for the required lux of every room — code lux per room type, layout on the grid, preview, then placed as blocks with the lux written back.

1 Drive home → **Lighting** (or **DLL**). **Check the settings**: ceiling height, code (Indian NBC / IS / CPWD or International IEC / EN) and the **luminaire** from the library. Click **Confirm**.



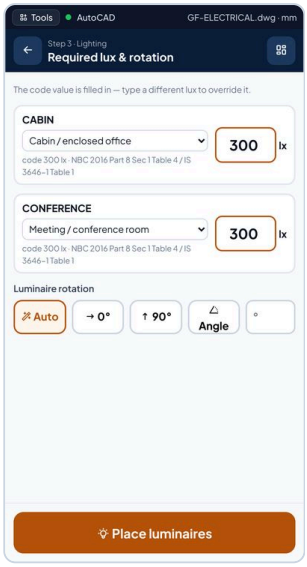
Check the settings

2 Select the room(s) — any tile of the room picker (section 7).



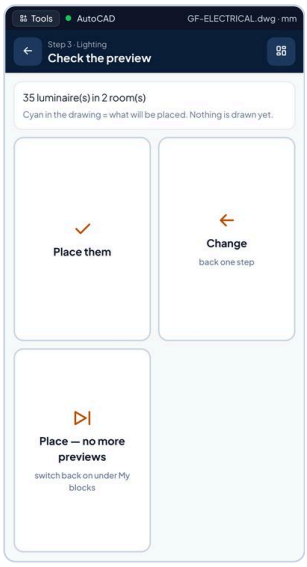
How do you want to select the room?

3 **Required lux & rotation** — rooms are grouped by type with the code value filled in (NBC 2016 / IS 3646, or EN 12464-1). Change the room type or type a different lux to override. Choose the rotation: **Auto** (best spacing), **0°**, **90°** or **Angle**. Click **Place luminaires**.



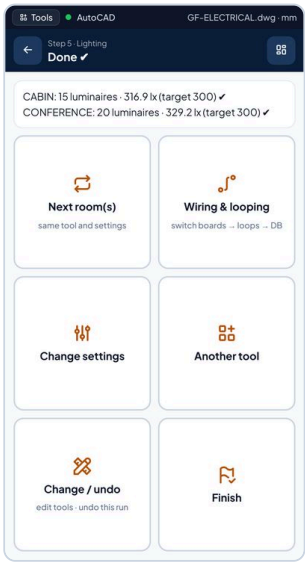
Required lux & rotation

4 **Check the preview** — the layout shows in **cyan** in the drawing; nothing is drawn yet. **Place them**, **Change** (back one step) or **Place — no more previews**.



Check the preview

5 **Done ✔** — per room: number of luminaires, average lux against the target, ✔ or ⚠. Next: **Next room(s)** with the same settings, **Wiring & looping**, **Change settings**, **Another tool**, **Change / undo** or **Finish**.

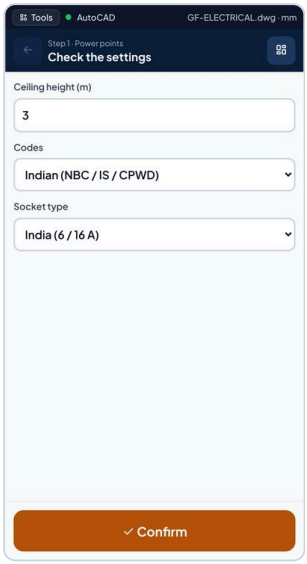


Done ✔

9 Power points

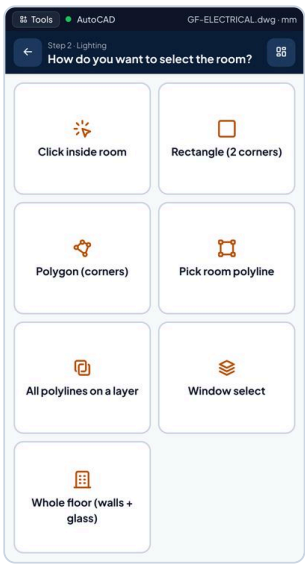
Sockets by room type for the socket standard of the country, snapped to the walls.

1 Drive home → **Power points** (DLP). Settings: ceiling height, code and **Socket type** — India (6 / 16 A), UK (13 A), EU / Gulf or US (NEMA). **Confirm**.



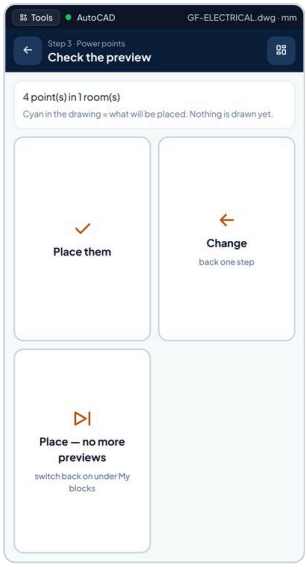
Check the settings

2 Select the room(s).



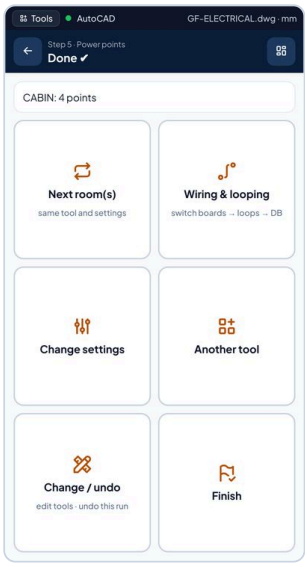
How do you want to select the room?

3 **Check the preview** — the points in cyan along the walls. **Place them**.



Check the preview

4 **Done ✔** — points per room. Move or delete any in the drawing; the wiring reads them as they are. Continue with **Wiring & looping**.

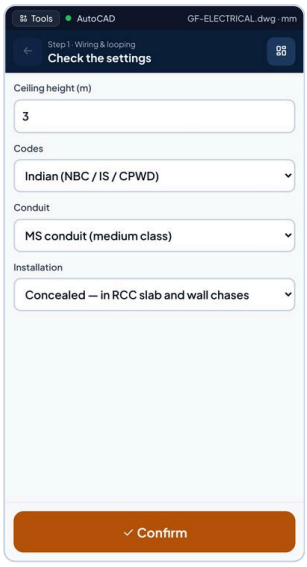


Done ✔

10 Wiring & looping

From the DB to every switch board, the looping of every point, conduit sizes, circuits and the DB schedule — drawn as dashed curves with the home runs labelled.

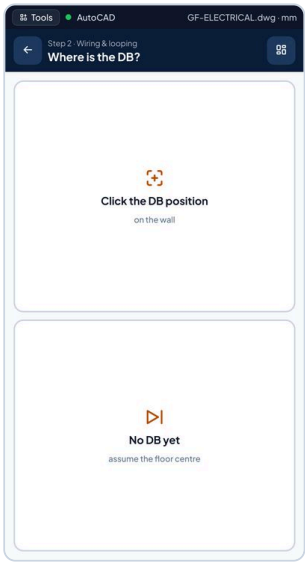
1 Drive home → **Wiring & looping** (DLW), or from the Lighting / Power Done screen. Settings: **Conduit** (MS medium class or PVC heavy duty) and **Installation** (concealed in RCC slab and wall chases, surface on RCC, or industrial shed). **Confirm**.



Check the settings

2 **Where is the DB?** — **Click the DB position** and click the wall, or **Keep** the DB placed before. **No DB yet** assumes the floor centre.

```
IN THE DRAWING — COMMAND LINE
> Click the DB position (wall)
```

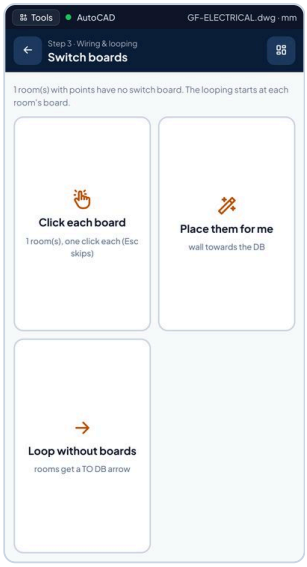


Where is the DB?

3 **Switch boards** — the screen says how many rooms with points have no board. **Click each board** (one click per room, Esc skips a room), **Place them for me** (on the wall towards the DB) or **Loop without boards** (those rooms get a TO DB arrow).

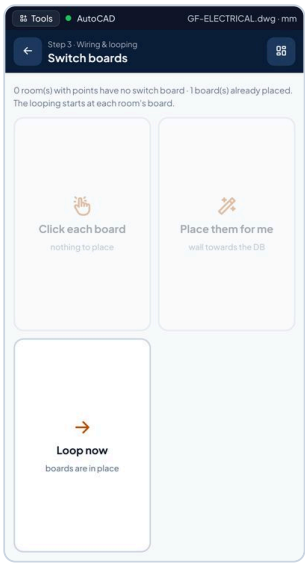
IN THE DRAWING — COMMAND LINE

```
> <room>: switch board position — Esc to skip
```



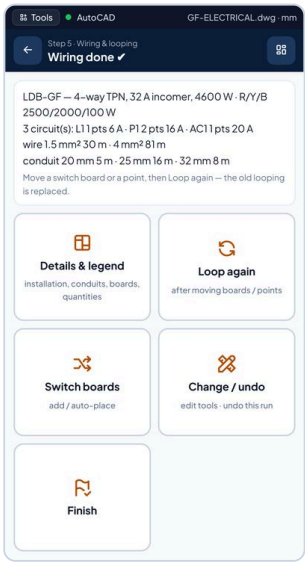
Switch boards

4 When every room has its board the third tile reads **Loop now**. Move any board in the drawing first if you like — its new position is read back.



Switch boards

5 **Wiring done ✔** — circuits, loops, home runs, conduit sizes and the DB summary. **Details & legend** places the typical details and the legend with this floor's quantities. **Loop again** after moving boards or points — the old looping is replaced.



Wiring done ✔

11 Fire alarm devices

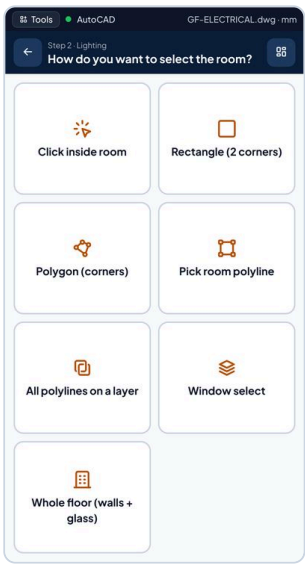
Smoke / heat detectors, call points and sounders in the selected rooms by the code spacing.

1 Drive home → **Fire alarm** (`DLF`). Settings: ceiling height and code. **Confirm**.



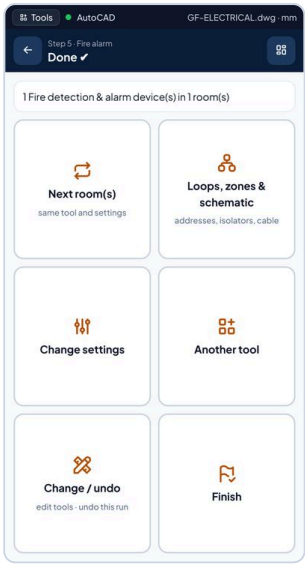
Check the settings

2 Select the room(s).



How do you want to select the room?

3 **Done ✔** — devices per room. Next: **Loops, zones & schematic** (section 12).

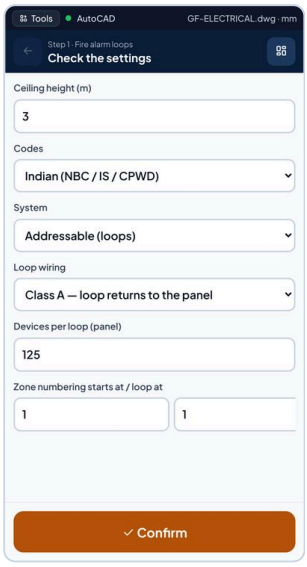


Done ✔

12 Fire alarm loops, zones and schematic

Zones, loop addressing, isolators and cable routes for the devices placed by DesignLink or for the drawing's own blocks — then the schematic and typical details.

1 Drive home → **Fire alarm loops** (`DLFL`). Settings: **System** (addressable loops or conventional zones), **Loop wiring** (Class A back to the panel, Class B open), **Devices per loop** (panel capacity, 125) and the zone / loop number to start at. **Confirm**.



Check the settings

2 **Which fire alarm devices?** — **Devices placed by DesignLink** or **Blocks already in the drawing**.

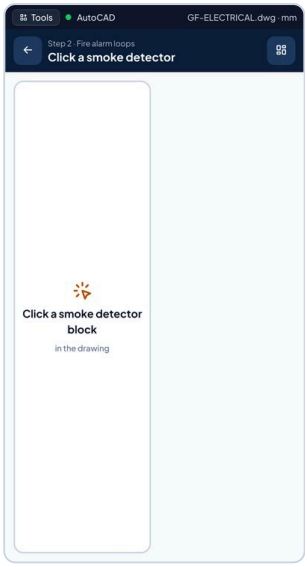


Which fire alarm devices?

3 For your own blocks, one screen per kind: **Click a smoke detector block** and click one in the drawing — every copy is taken. Then heat detector, multi-sensor, call point, sounder, strobe and interface module: click one, **Keep** the last one used, or **None in this drawing**.

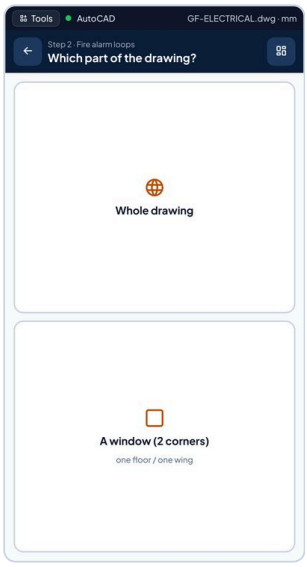
IN THE DRAWING — COMMAND LINE

```
> Click a smoke detector block
```



Click a smoke detector

4 **Which part of the drawing?** — **Whole drawing** or **A window (2 corners)** for one floor / wing.

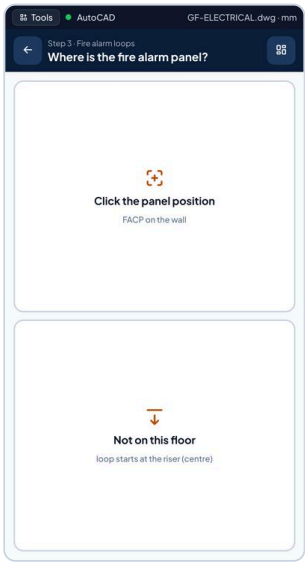


Which part of the drawing?

5 **Where is the fire alarm panel?** — **Click the panel position** (FACP on the wall) or **Not on this floor** (the loop starts at the riser).

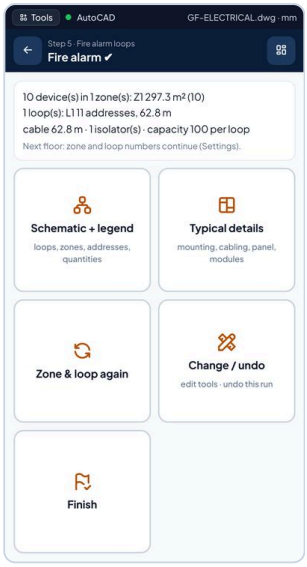
IN THE DRAWING — COMMAND LINE

```
> Click the fire alarm panel position
```



Where is the fire alarm panel?

6 **Fire alarm ✔** — zones with areas, loops with addresses and lengths, cable, isolators. Addresses go into the blocks' TAG attribute (or as text beside them). **Schematic + legend** and **Typical details** place sheets at a picked corner. The next floor continues the zone and loop numbers.



Fire alarm ✔

13 CCTV, Data / Tel, PA speakers, Wi-Fi

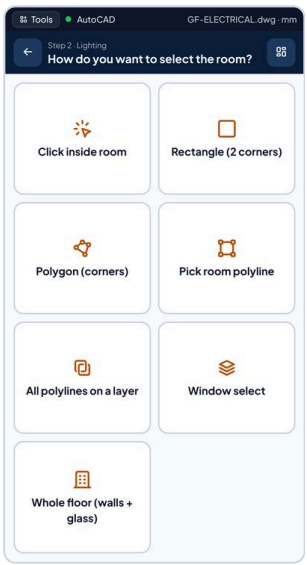
The same three screens for each ELV system: settings → rooms → done.

1. Drive home → **CCTV**, **Data / Tel**, **PA speakers** or **Wi-Fi**. Check the ceiling height and code, **Confirm**.



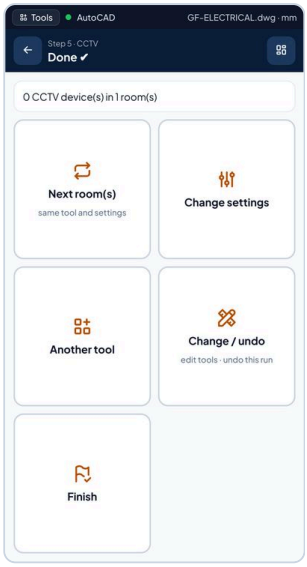
Check the settings

2. Select the room(s).

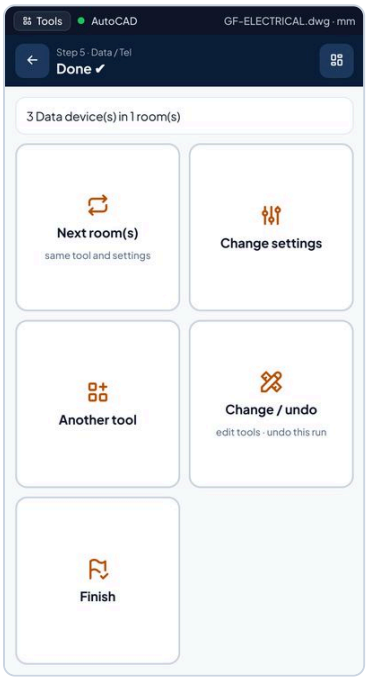


How do you want to select the room?

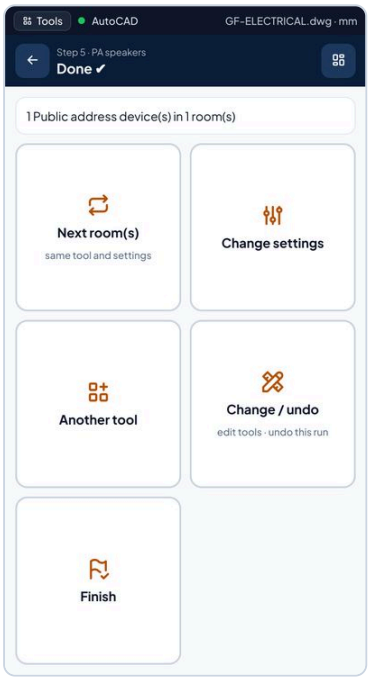
3 **Done ✔** — devices per room. Cabling to racks, PoE and rack elevations: **ELV cabling & racks** (section 16). Tags and zones for a whole floor: expert view → ELV → **Tag & zone this floor**.



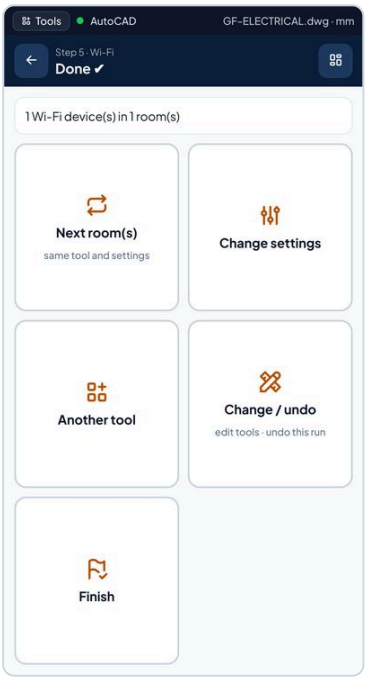
Done ✔



Done ✔



Done ✔

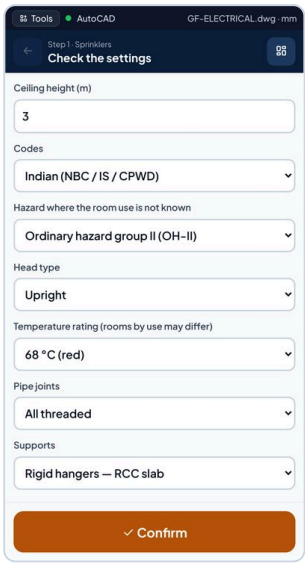


Done ✔

14 Sprinklers

Heads by hazard and room use → move or add by hand → pipe every head (range, cross and main pipes sized, remote-area check) → details and legend.

1 Drive home → **Sprinklers** (**DLS**). Settings (also: **pipe drawing** single line or **double line at true OD with fittings and joint marks**, **false-ceiling void** for the drops, **beam clearance**, the IS 15105 **design area** and **32 mm room feed**): **hazard** where the room use is not known, **head type** (pendent, upright, up + down for false ceilings, concealed, sidewall), **temperature rating**, **pipe joints** (threaded / welded / grooved) and **supports** (rigid or wire rope, RCC or shed). **Confirm**.

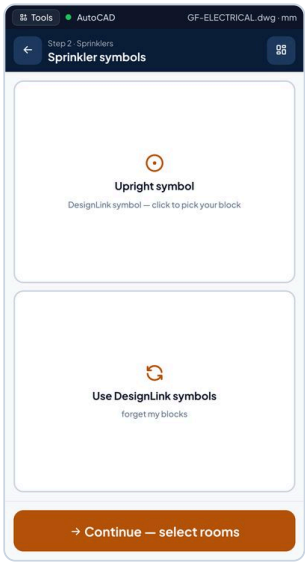


Check the settings

2 **Sprinkler symbols** — the DesignLink symbol, or click a tile and pick your own head block in the drawing. **Continue — select rooms**.

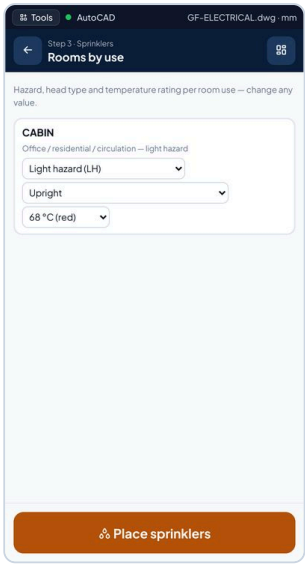
IN THE DRAWING — COMMAND LINE

```
> Click your upright sprinkler block in the drawing
```



Sprinkler symbols

3 Select the rooms, then **Rooms by use**: hazard, head type and temperature are suggested from the room names (kitchen 93 °C, boiler 141 °C, parking and stores OH …). Change any value and click **Place sprinklers**.



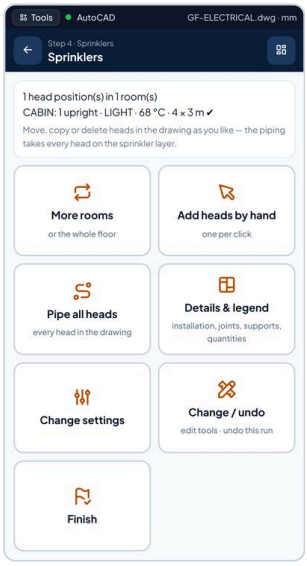
Rooms by use

4 **Beams** — **Click a beam line** (every line on that layer is a beam edge), **Keep** the layer from last time, or **No beams / flat slab**. Uprights — and the upright of every up + down pair — keep the clearance set in the settings (0.45 m by default) from every beam; the pendent stays on the grid. An up + down pair is drawn as **two symbols**: the pendent, and the upright 0.75 m above it — move the upright freely; up to 1.5 m away it still counts as the same pair.

IN THE DRAWING — COMMAND LINE

```
> Click a beam line
```

5 **Sprinklers** — heads per room with the spacing. Move, copy or delete heads in the drawing as you like. **Add heads by hand** (one per click, Esc ends) or **More rooms**.

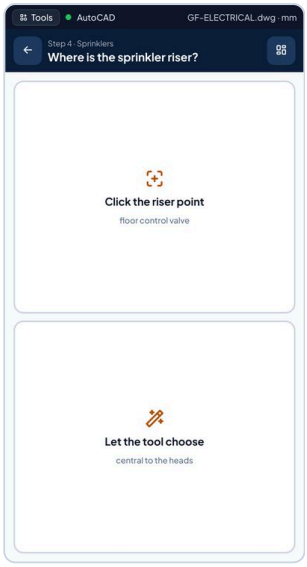


Sprinklers

6 **Pipe all heads** → **Where is the sprinkler riser?** — **Click the riser point** (floor control valve), **Same riser as before** or **Let the tool choose**.

IN THE DRAWING — COMMAND LINE

```
> Click the sprinkler riser / floor control valve
```



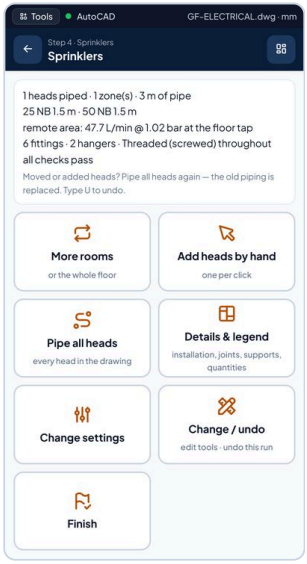
Where is the sprinkler riser?

7 **Main header route** — **Draw the main route** (click along the corridor, Enter; then draw branches, Enter on an empty line when done), **Pick polyline(s)** already drawn, **Same route as before** or **Let the tool route it** (corridors by name, else the shortest path from the riser). Rooms are fed by square drops from the main.

IN THE DRAWING — COMMAND LINE

```
> Main route: first point at the riser end
```

8 Every head on the sprinkler layer is piped: zones, pipe metres per size, remote-area flow and pressure, fittings and hangers, checks. Moved heads? **Pipe all heads** again — the old piping is replaced. **Details & legend** places installation details with the quantities.

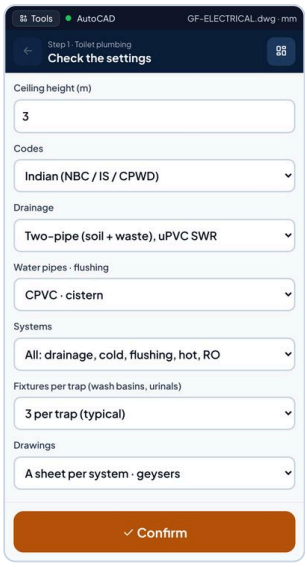


Sprinklers

15 Toilet plumbing

From the fixture blocks already in the drawing: soil, waste, vent, cold, flushing, hot and RO pipes to the shaft, sized and drawn, with wall elevations, details and legend.

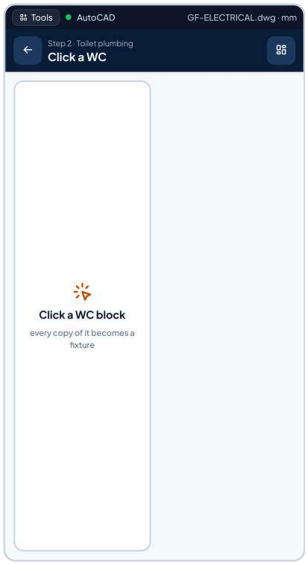
1 Drive home → **Toilet plumbing** (`DLTO`). Settings: **drainage** (two-pipe or single stack; uPVC SWR, cast iron, HDPE), **water pipes · flushing** (CPVC / PPR / GI / copper; cistern or flush valves), **systems**, **fixtures per trap**, **drawings** (a sheet per system or in place; geysers or central hot water). **Confirm**.



Check the settings

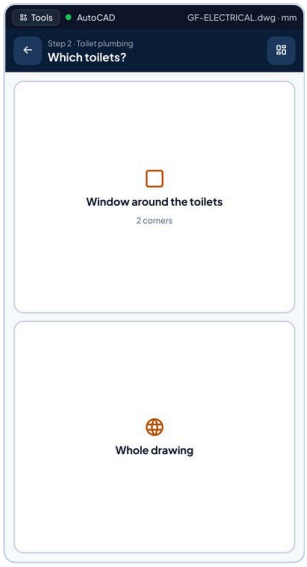
2 One screen per fixture: **Click a WC** — click one WC block in the drawing; every copy becomes a fixture. Then wash basin, urinal, shower, bath tub, sink, floor trap and ablution tap (**None in these toilets** when absent).

```
IN THE DRAWING — COMMAND LINE
> Click a WC block
> Click a wash basin block
```



Click a WC

3 **Which toilets?** — **Window around the toilets** or **Whole drawing**.

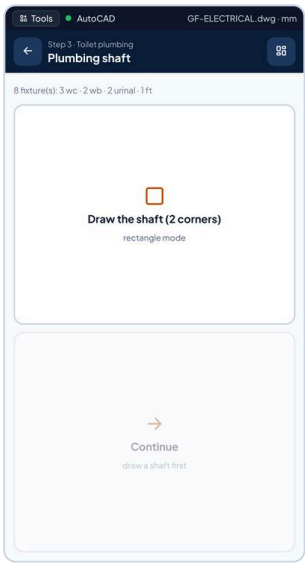


Which toilets?

4 **Plumbing shaft** — **Draw the shaft (2 corners)**; add more shafts if needed, then **Continue**.

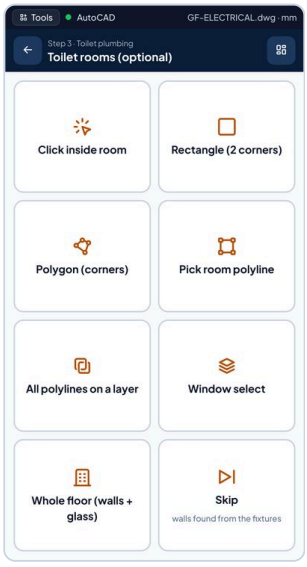
IN THE DRAWING — COMMAND LINE

```
> First corner of the room:
> Opposite corner:
```



Plumbing shaft

5 **Toilet rooms (optional)** — pick the toilet rooms, or **Skip** (walls are found from the fixtures).

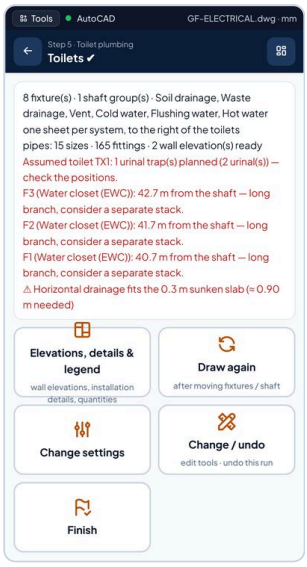


Toilet rooms (optional)

6 **Settings → Pipe drawing**: **P-line at true OD + fittings** (default) draws every pipe at its outside diameter with bends, wyes / tees and reducers — the drainage as it is laid: WCs, basins and urinals on 45° branches into a main set back from the wall, 45° bend pairs, invert levels (IL) at every branch and '100 Ø UP TO WC' at every outlet; **Double line** or **Single line** as alternatives. **Sunken slab depth** is checked against the invert levels.

7 **Isometrics** places the drainage isometric (soil / waste / vent with sizes and IL) and the water-supply isometric (CW / flushing / HW / RO with header and outlet heights) at a picked corner. The detail sheets now include the **shaft plan** with this project's stacks and risers.

8 **Toilets ✔** — fixtures, shaft groups, systems, pipe sizes and fittings. **Elevations, details & legend** places the wall elevations and details. **Draw again** after moving fixtures or the shaft.

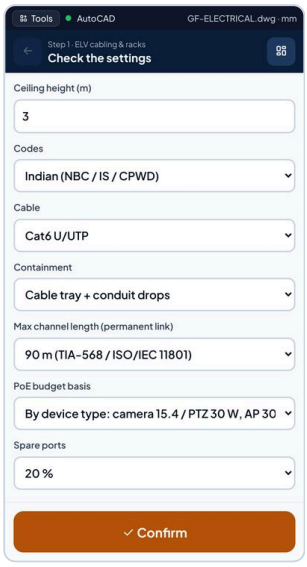


Toilets ✔

16 ELV cabling & racks

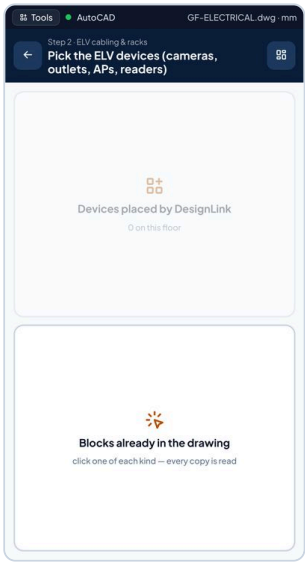
Cameras, data outlets, access points and readers cabled to the racks along the tray: channel lengths checked, PoE budget, switch and patch-panel count, rack elevations and the schematic.

1 Drive home → **ELV cabling & racks** (**DLEL**). **Check the settings — cable**, **containment**, **max channel length**, **PoE budget basis**, **spare ports**, **patch panel size**, **switch type**. **Confirm**.



Check the settings

2 **Pick the ELV devices** — **Devices placed by DesignLink** or **Blocks already in the drawing** (click one camera, outlet, AP, reader …; every copy is read).

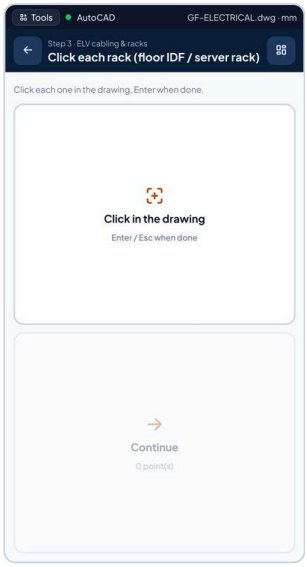


Pick the ELV devices (cameras, outlets, APs, readers)

3 **Click each rack** (floor IDF / server rack), Enter when done, then **Continue**.

IN THE DRAWING — COMMAND LINE

```
> Rack position
```

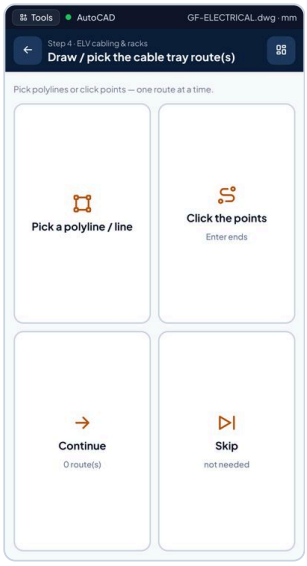


Click each rack (floor IDF / server rack)

4 **Draw / pick the cable tray route(s)** — **Pick a polyline / line** or **Click the points** (Enter ends); add more routes, then **Continue**.

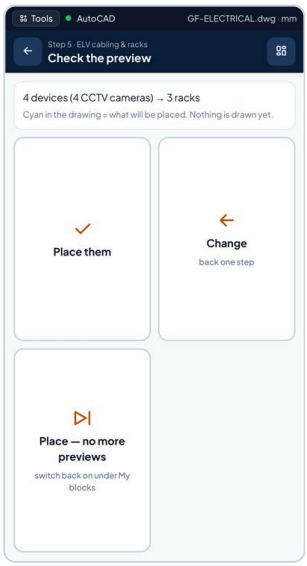
IN THE DRAWING — COMMAND LINE

```
> Tray route (pick a polyline or click points, Enter ends)
```



Draw / pick the cable tray route(s)

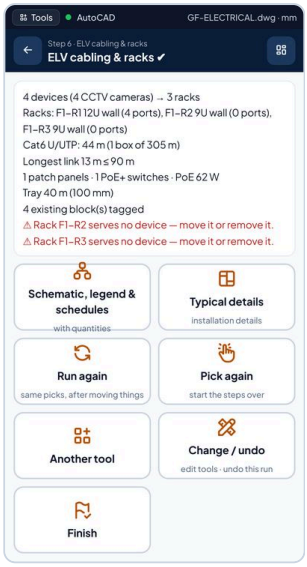
5 **Check the preview** in cyan → **Place them**.



Check the preview

6

ELV cabling & racks ✔ — the summary of what was designed and drawn.
Schematic, legend & schedules and **Typical details** place their sheets at a picked corner.
Run again keeps your picks after you move things; **Pick again** starts the steps over.

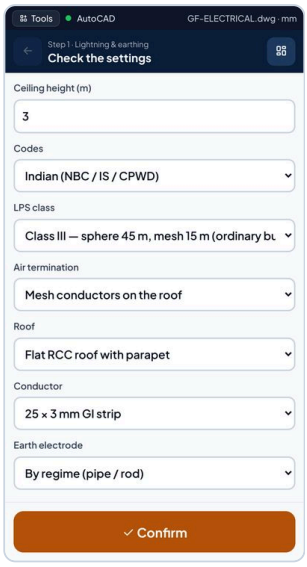


ELV cabling & racks ✔

17 Lightning & earthing

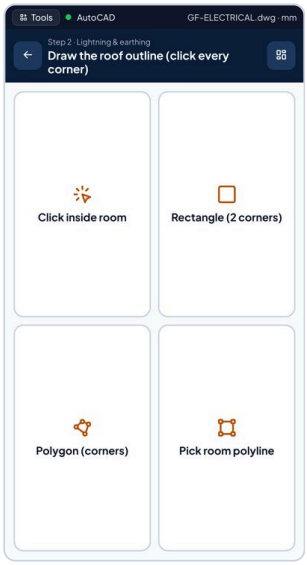
Air termination on the roof (mesh / rods), down conductors, ring earth and pits by LPS class, equipment earthing with strip sizes from the fault level.

1 Drive home → **Lightning & earthing** (**DLEA**). **Check the settings — LPS class**, **air termination**, **roof**, **conductor**, **earth electrode**, **soil resistivity**, **target earth resistance**, **fault level for the earth strips**. **Confirm**.



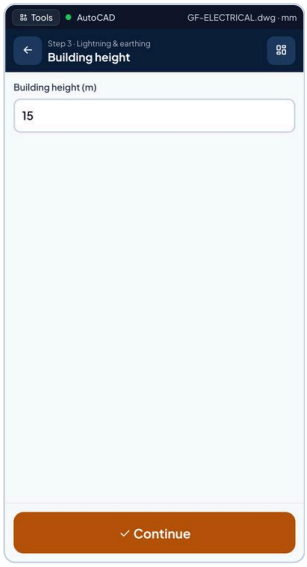
Check the settings

2 **Draw the roof outline** — click inside, two corners, every corner or pick the roof polyline.



Draw the roof outline (click every corner)

3 **Building height** (m) → **Continue**.

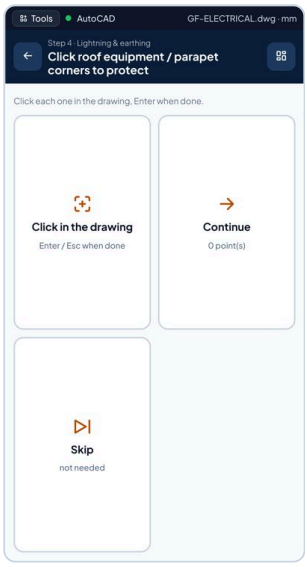


Building height

4 **Click roof equipment / parapet corners to protect** (Enter when done), or **Skip**.

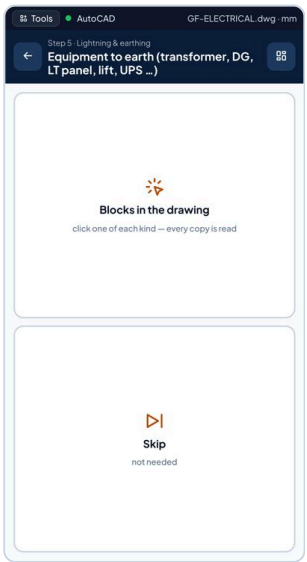
IN THE DRAWING — COMMAND LINE

```
> Roof equipment / corner
```



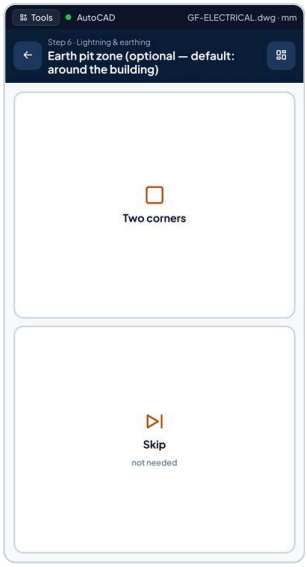
Click roof equipment / parapet corners to protect

5 **Equipment to earth** — transformer, DG, LT panel, lift, UPS … blocks in the drawing, or **Skip**.



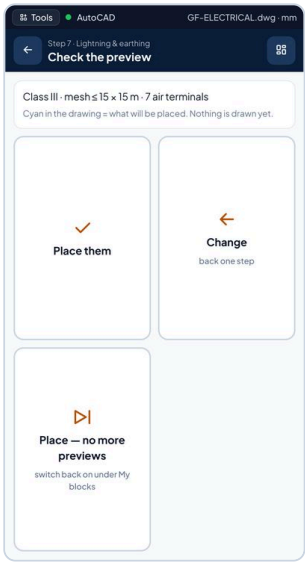
Equipment to earth (transformer, DG, LT panel, lift, UPS …)

6 **Earth pit zone** (optional) — **Two corners** or **Skip** (pits around the building).



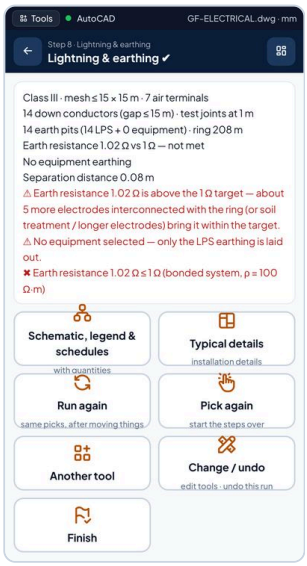
Earth pit zone (optional — default: around the building)

7 **Check the preview** in cyan → **Place them**.



Check the preview

8 **Lightning & earthing ✔** — the summary of what was designed and drawn.
Schematic, legend & schedules and **Typical details** place their sheets at a picked corner.
Run again keeps your picks after you move things; **Pick again** starts the steps over.

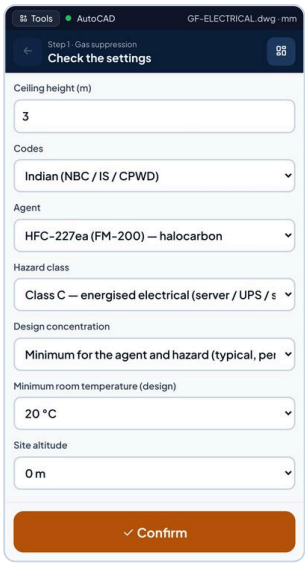


Lightning & earthing ✔

18 Gas suppression

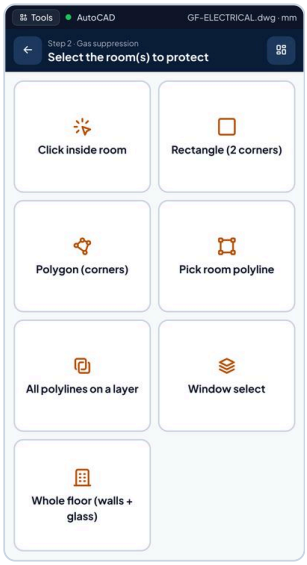
FM-200, Novec 1230 or IG-541: agent quantity for the room volume (with void depths), nozzles, piping, cylinder bank, cross-zoned detectors and pressure relief.

1 Drive home → Gas suppression (DLGS). **Check the settings — agent, hazard class, design concentration, minimum room temperature, site altitude, protect, cylinder size, reserve, several rooms, enclosure strength.** Confirm.



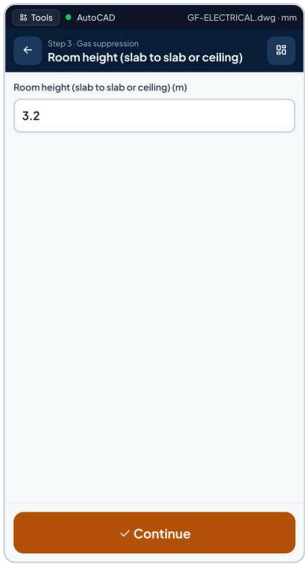
Check the settings

2 **Select the room(s) to protect** — the room picker.



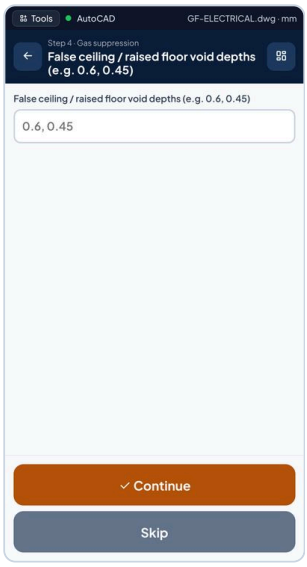
Select the room(s) to protect

3 **Room height** (slab to slab or ceiling) → **Continue**.



Room height (slab to slab or ceiling)

4 **False ceiling / raised floor void depths**, e.g. 0.6, 0.45 → **Continue** or **Skip**.

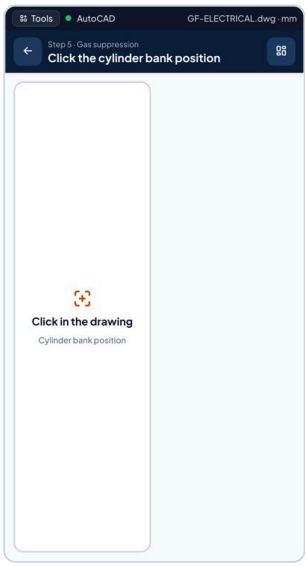


False ceiling / raised floor void depths (e.g. 0.6, 0.45)

5 **Click the cylinder bank position**.

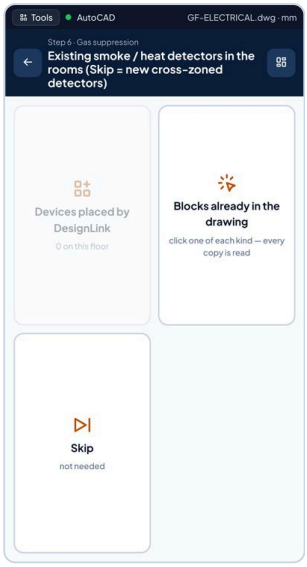
IN THE DRAWING — COMMAND LINE

```
> Cylinder bank position
```



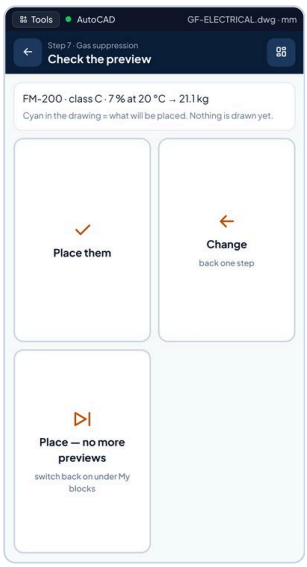
Click the cylinder bank position

6 **Existing smoke / heat detectors** in the rooms, or **Skip** for new cross-zoned detectors.



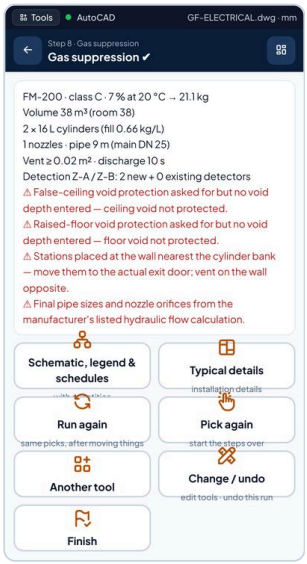
Existing smoke / heat detectors in the rooms (Skip = new cross-zoned detectors)

7 **Check the preview** in cyan → **Place them**.



Check the preview

8 **Gas suppression ✔** — the summary of what was designed and drawn.
Schematic, legend & schedules and **Typical details** place their sheets at a picked corner.
Run again keeps your picks after you move things; **Pick again** starts the steps over.

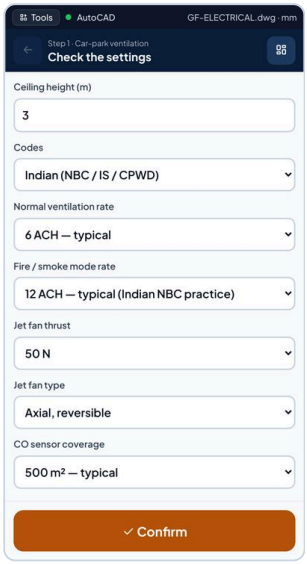


Gas suppression ✔

19 Car-park ventilation

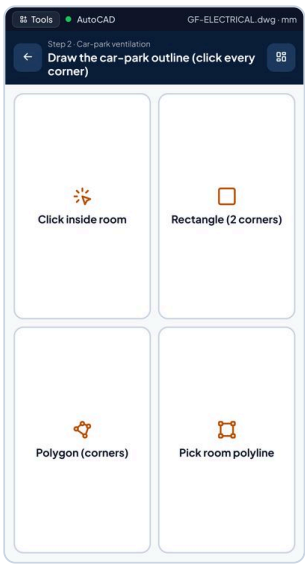
Jet fans for the normal and fire / smoke rates, exhaust and supply shafts, CO sensors and smoke zones for the car-park outline.

1 Drive home → Car-park ventilation (DLCP). **Check the settings — normal ventilation rate, fire / smoke mode rate, jet fan thrust and type, CO sensor coverage, smoke zone max area, supply air as % of exhaust, clear height.** Confirm.



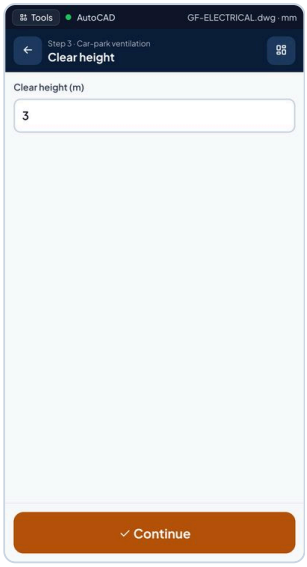
Check the settings

2 **Draw the car-park outline** (click every corner, two corners or pick the polyline).



Draw the car-park outline (click every corner)

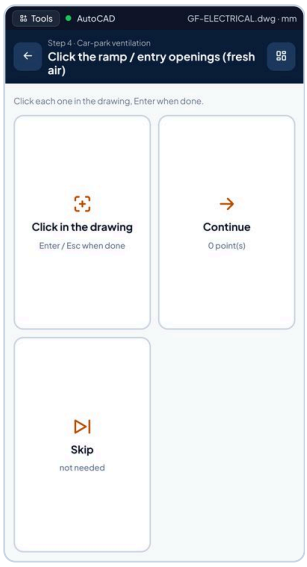
3 **Clear height** → Continue.



Clear height

4 **Click the ramp / entry openings** (fresh air), Enter when done → Continue.

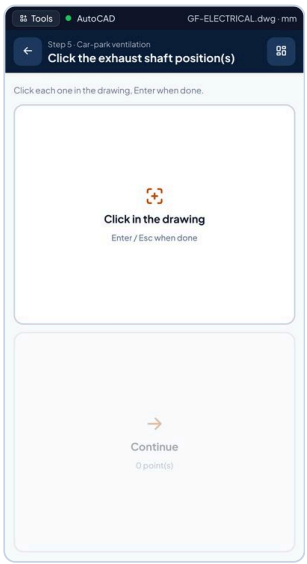
```
IN THE DRAWING — COMMAND LINE
> Ramp / entry opening
```



Click the ramp / entry openings (fresh air)

5 **Click the exhaust shaft position(s)** → Continue.

```
IN THE DRAWING — COMMAND LINE
> Exhaust shaft
```

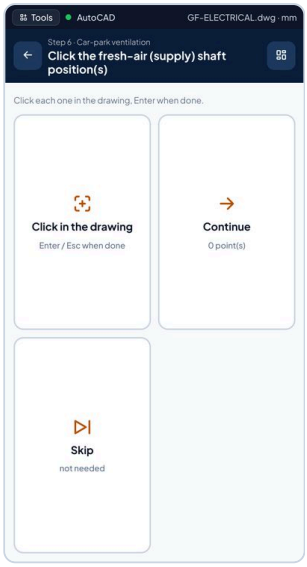


Click the exhaust shaft position(s)

6 **Click the fresh-air (supply) shaft position(s)** → Continue or Skip.

IN THE DRAWING — COMMAND LINE

```
> Supply shaft
```

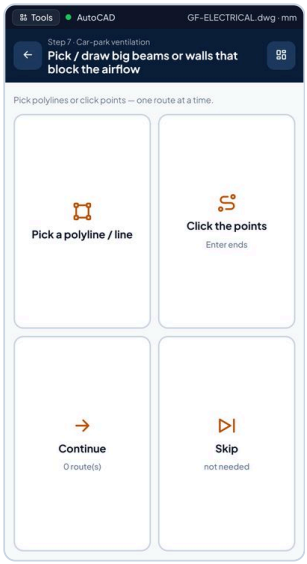


Click the fresh-air (supply) shaft position(s)

7 **Pick / draw big beams or walls that block the airflow** → Continue or Skip.

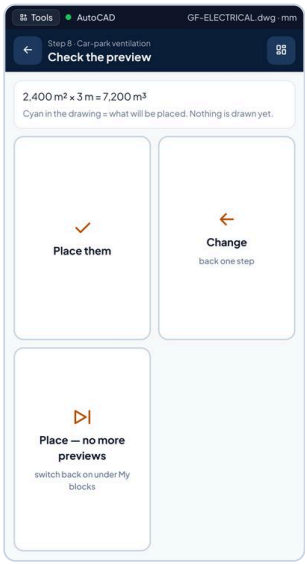
IN THE DRAWING — COMMAND LINE

```
> Beam / wall
```



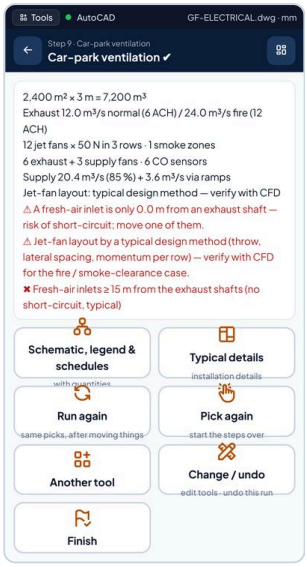
Pick / draw big beams or walls that block the airflow

8 **Check the preview** in cyan → Place them.



Check the preview

9 **Car-park ventilation ✔** — the summary of what was designed and drawn.
Schematic, legend & schedules and **Typical details** place their sheets at a picked corner.
Run again keeps your picks after you move things; **Pick again** starts the steps over.

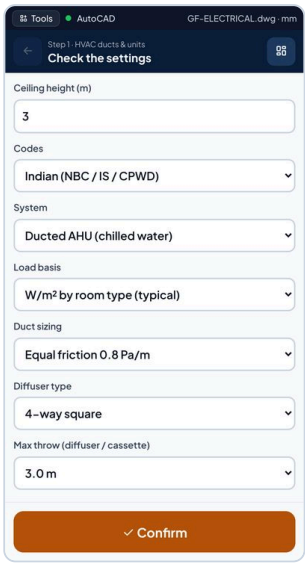


Car-park ventilation ✔

20 HVAC ducts & units

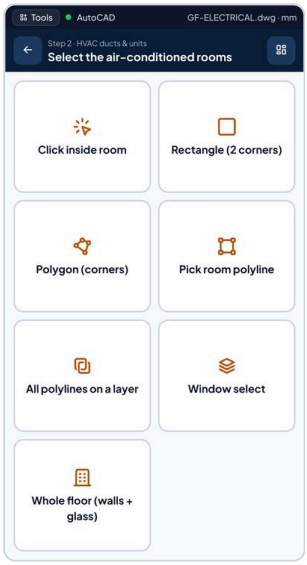
Diffusers per room from the heat load, duct routing along the corridor and sizing, or VRF / FCU units with refrigerant and drain piping.

1 Drive home → HVAC ducts & units (DLHV). **Check the settings — system, load basis, duct sizing, diffuser type, max throw, duct material, duct insulation, refrigerant pipe.** Confirm.



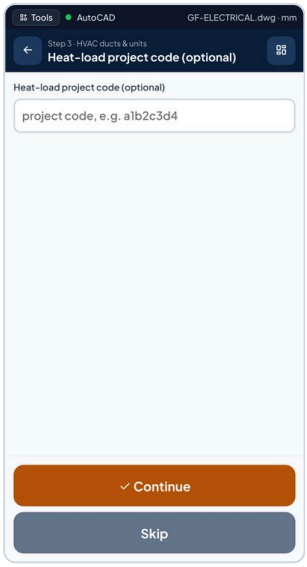
Check the settings

2 **Select the air-conditioned rooms** — the room picker.



Select the air-conditioned rooms

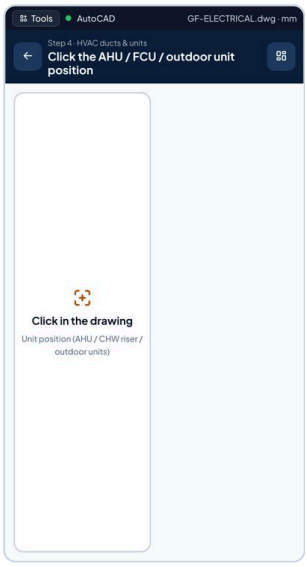
3 **Heat-load project code** (optional, from the Heat load tool) → **Continue** or **Skip**.



Heat-load project code (optional)

4 **Click the AHU / FCU / outdoor unit position**.

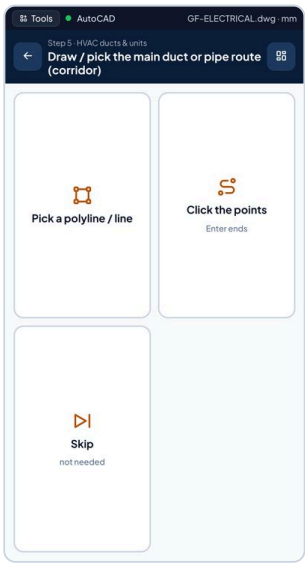
```
IN THE DRAWING — COMMAND LINE
> Unit position (AHU / CHW riser / outdoor units)
```



Click the AHU / FCU / outdoor unit position

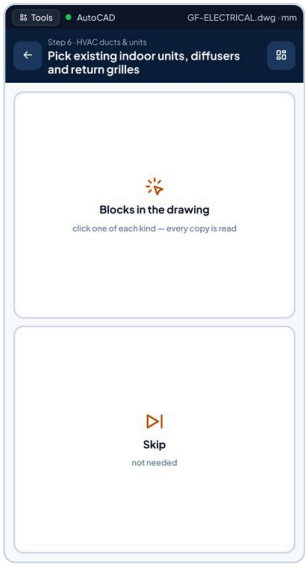
5 **Draw / pick the main duct or pipe route** along the corridor — polyline or points.

```
IN THE DRAWING — COMMAND LINE
> Route along the corridor (Enter ends)
```



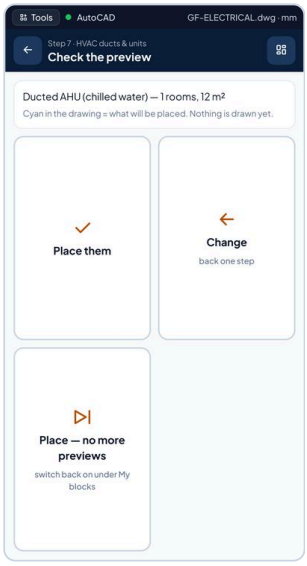
Draw / pick the main duct or pipe route (corridor)

6 **Pick existing indoor units, diffusers and return grilles**, or **Skip** to lay them out.



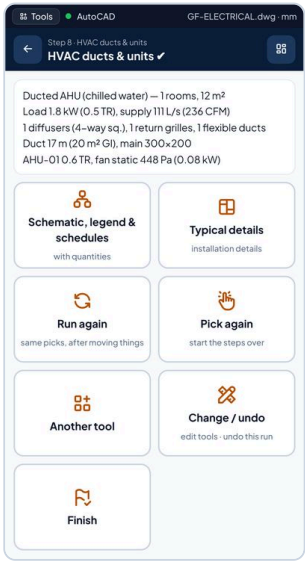
Pick existing indoor units, diffusers and return grilles

7 **Check the preview** in cyan → **Place them**.



Check the preview

8 **HVAC ducts & units ✔** — the summary of what was designed and drawn.
Schematic, legend & schedules and **Typical details** place their sheets at a picked corner.
Run again keeps your picks after you move things; **Pick again** starts the steps over.

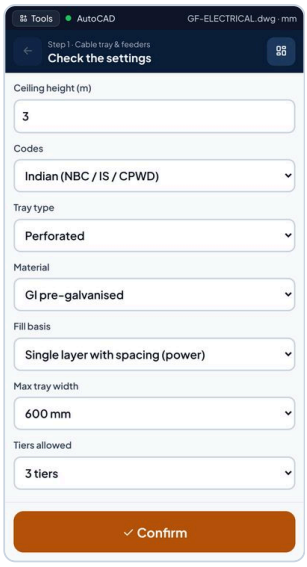


HVAC ducts & units ✔

21 Cable tray & feeders

LT feeders routed on the tray: fill, tray size, tiers and segregation, sections and the cable schedule — feeders from a voltage-drop project or typed.

1 Drive home → **Cable tray & feeders** (`DLT`). **Check the settings — tray type, material, fill basis, max tray width, tiers allowed, segregation, support spacing, feeders from, cable route lines on the plan.** **Confirm**.

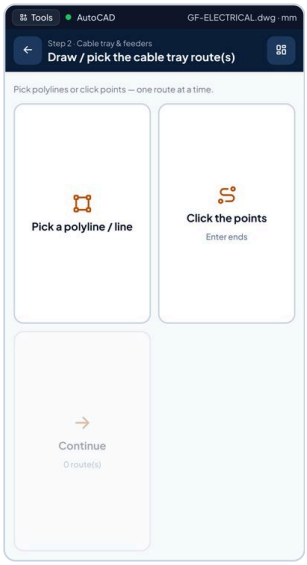


Check the settings

2 **Draw / pick the cable tray route(s) →** **Continue**.

IN THE DRAWING — COMMAND LINE

```
> Tray route (pick a polyline or click points)
```

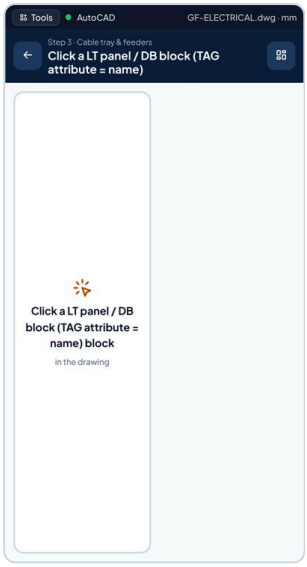


Draw / pick the cable tray route(s)

3 **Panels and DBs on this floor** — click one panel / DB block (its TAG attribute is the name); every copy is read.

IN THE DRAWING — COMMAND LINE

```
> Click a LT panel / DB block (TAG attribute = name) block
```



Click a LT panel / DB block (TAG attribute = name)

4 **Voltage-drop project code** (feeders from the VD tool) → **Continue** or **Skip**.



Voltage-drop project code (feeders)

5 **Or type feeders**, one per line: `MLTP > LDB-1 : 4C x 25 Sq.mm, Al` → **Continue**.

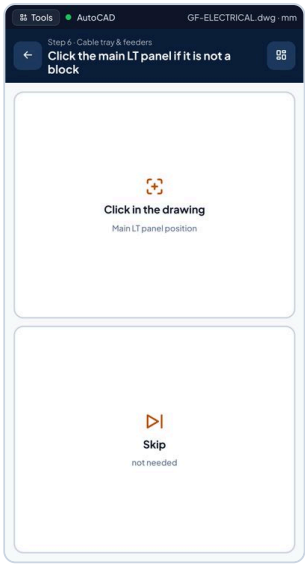


Or type feeders: FROM > TO : cable, one per line

6 **Click the main LT panel if it is not a block**, or **Skip**.

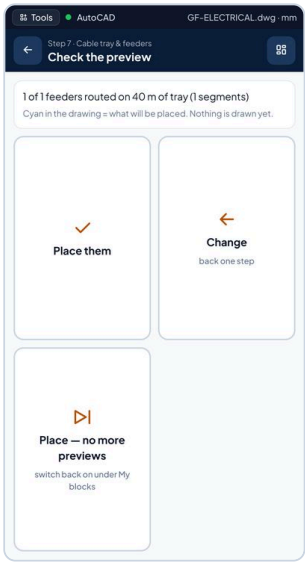
IN THE DRAWING — COMMAND LINE

```
> Main LT panel position
```



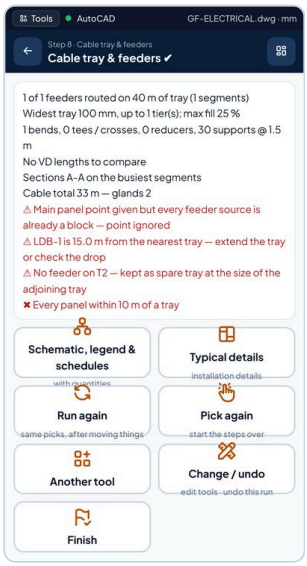
Click the main LT panel if it is not a block

7 **Check the preview** in cyan → **Place them**.



Check the preview

8 **Cable tray & feeders ✔** — the summary of what was designed and drawn.
Schematic, legend & schedules and **Typical details** place their sheets at a picked corner.
Run again keeps your picks after you move things; **Pick again** starts the steps over.

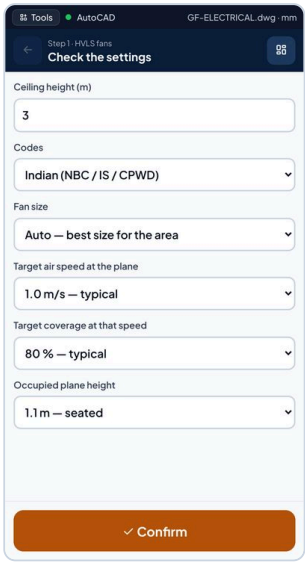


Cable tray & feeders ✔

22 HVLS fans

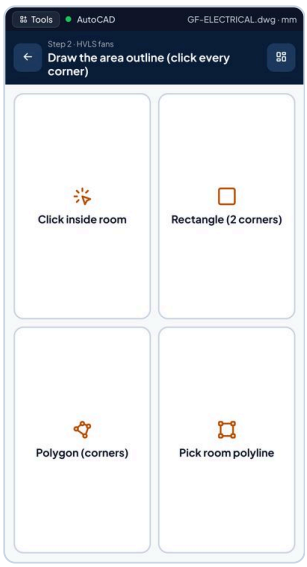
Fan count and layout for the area and its racks, with the air-speed map at the occupied plane.

1 Drive home → HVLS fans (DLHF). **Check the settings — fan size, target air speed at the plane, target coverage, occupied plane height.** Confirm.



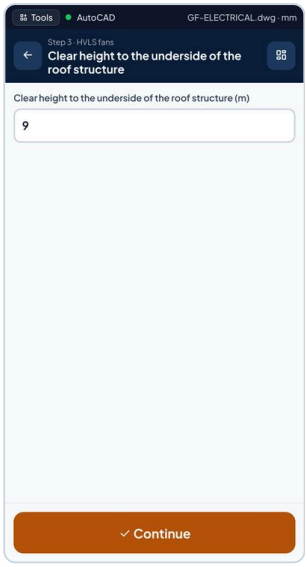
Check the settings

2 **Draw the area outline** (click every corner, two corners or pick the polyline).



Draw the area outline (click every corner)

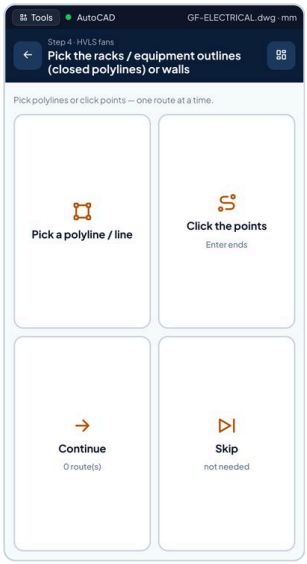
3 **Clear height** to the underside of the roof structure → **Continue**.



Clear height to the underside of the roof structure

4 **Pick the racks / equipment outlines** (closed polylines) or walls → **Continue** or **Skip**.

```
IN THE DRAWING — COMMAND LINE
> Rack / obstruction outline
```



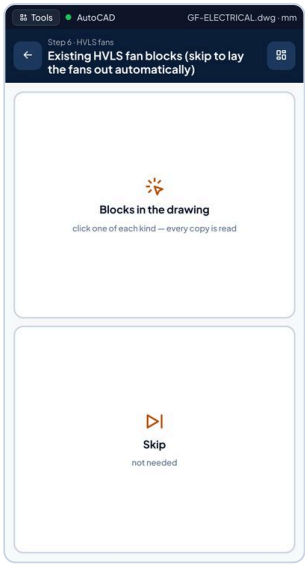
Pick the racks / equipment outlines (closed polylines) or walls

5 **Height of the racks / obstructions** → **Continue**.



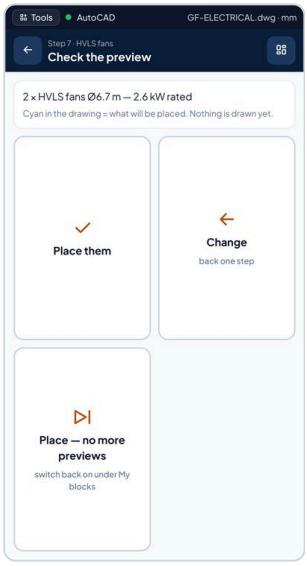
Height of the racks / obstructions

6 **Existing HVLS fan blocks**, or **Skip** to lay the fans out automatically.



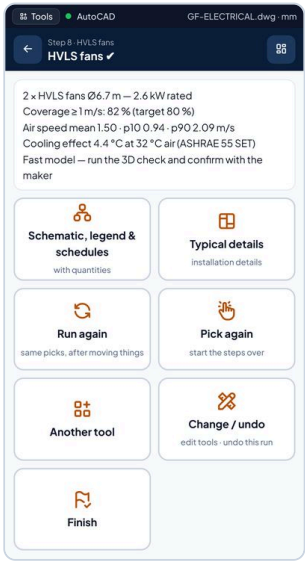
Existing HVLS fan blocks (skip to lay the fans out automatically)

7 **Check the preview** in cyan → **Place them**.



Check the preview

8 **HVLS fans ✔** — the summary of what was designed and drawn. **Schematic, legend & schedules** and **Typical details** place their sheets at a picked corner. **Run again** keeps your picks after you move things; **Pick again** starts the steps over.

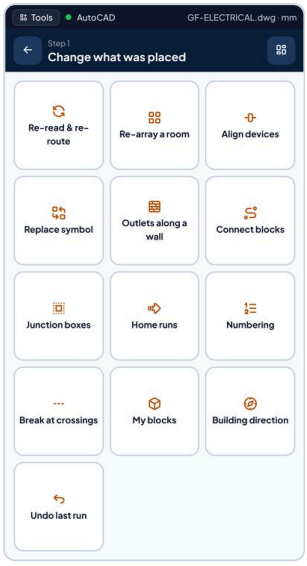


HVLS fans ✔

23 Change what was placed

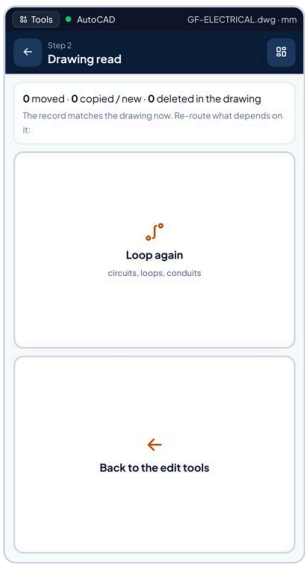
Edit after placing without starting over: every DesignLink block keeps its link to the design.

1. Type `DLE` (or Drive home → **Change & number**, or **Change / undo** on any Done screen). Thirteen tools:



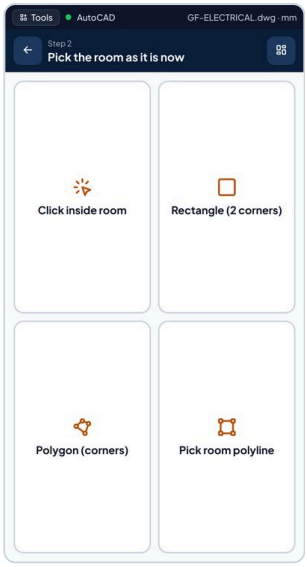
Change what was placed

2. **Re-read & re-route** — after moving, copying or deleting blocks by hand: the record is matched to the drawing (moved / copied / deleted counts) and the screen offers to re-route what depends on it: **Loop again**, fire alarm loops, sprinkler piping, or the last tool.



Drawing read

3 **Re-array a room** — the room changed size: pick the room as it is now and its devices are laid out again.



Pick the room as it is now

4 **Align devices** — window over devices, then **One row** (same Y), **One column** (same X), **Rows & columns** (snap to the nearest row / column) or **Equal spacing** (ends stay).

IN THE DRAWING — COMMAND LINE

```
> Select the blocks to line up
```

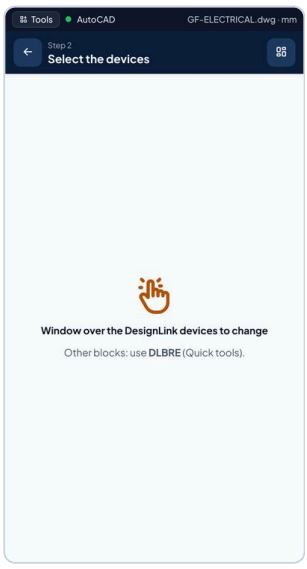


Line them up how?

5 **Replace symbol** — window over DesignLink devices, pick the new symbol: same place and angle. For any other block use `DLBRE`.

IN THE DRAWING — COMMAND LINE

```
> Select the devices whose symbol changes
```

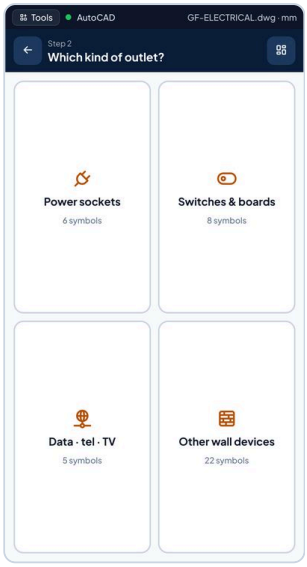


Select the devices

6 **Outlets along a wall** — sockets, switches, data / tel / TV or other wall devices along a wall you pick, at the spacing you type.

IN THE DRAWING — COMMAND LINE

```
> First end of the wall
> Other end of the wall
> Click inside the room (which side of the wall)
```



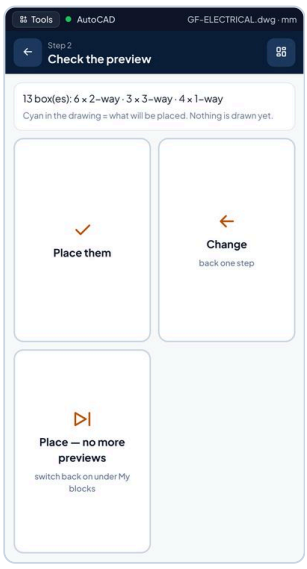
Which kind of outlet?

7 **Connect blocks** — **Two blocks** square route around other blocks, **Two blocks — I shape it** (the route follows the mouse), **Chain several** (first → … → last: data, PA …) or straight.



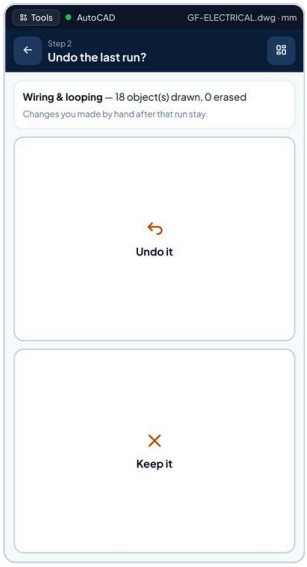
Connect how?

8 **Junction boxes** (after looping) — boxes at the loop branch points, previewed first. **Home runs** — DB → each circuit with a gap between parallel runs.



Check the preview

9 **Undo last run** — removes what the last run drew and brings back what it erased; changes you made by hand afterwards stay. `DLU` opens it directly.



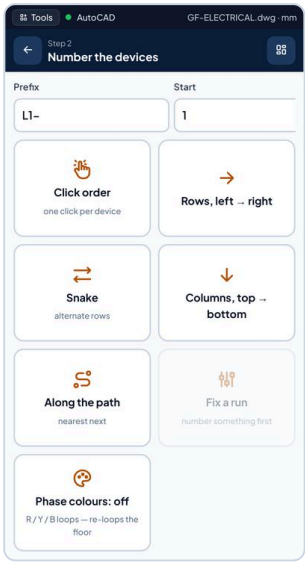
Undo the last run?

24 Numbering

Tags in the order you want, written into the blocks.

1 Type **DLN**. Set the **prefix**, **start**, **step** and the **attribute** (TAG, CKT …). Then the order: **Click order** (one click per device), **Rows, left → right**, **Snake** (alternate rows), **Columns, top → bottom** or **Along the path** (nearest next). **Fix a run** renumbers part of a run; **Phase colours** colours loops R / Y / B.

```
IN THE DRAWING — COMMAND LINE
> Select the devices to number
```



Number the devices

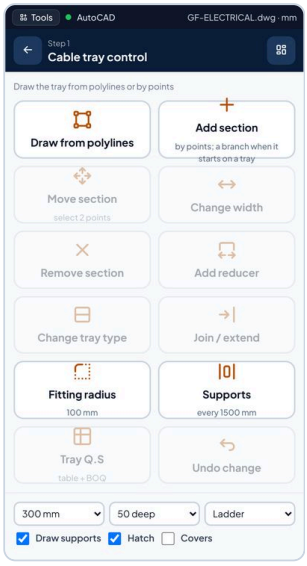
25 Cable tray control

Draw and edit cable trays as real trays: width, type, fittings with radius, supports and the tray Q.S.

1 Type **DLCT** (or Drive home → **Cable tray control**). Choose the default **width**, **depth** and **type** (ladder, perforated, …) at the bottom, and tick **Draw supports**, **Hatch**, **Covers**. **Draw from polylines** turns centre-lines into trays; **Add section** draws by points (a branch when it starts on a tray).

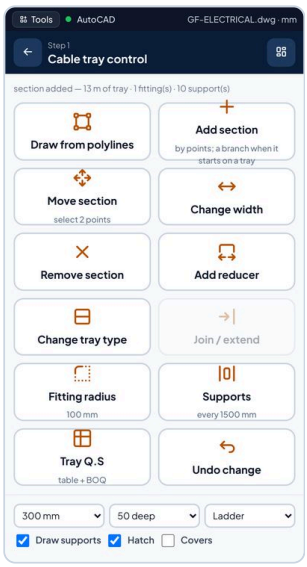
IN THE DRAWING — COMMAND LINE

```
> Select the polylines / lines along the tray centre
> Next point of the tray section (Enter to finish)
```



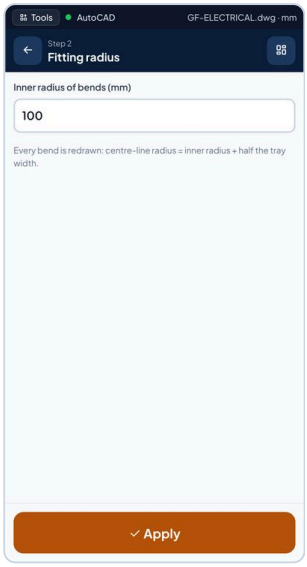
Cable tray control

2 Once a tray exists: **Move section** (2 points), **Change width**, **Remove section**, **Add reducer**, **Change tray type**, **Join / extend**, **Undo change**; **Tray Q.S** places the quantity table and sends the BOQ lines.



Cable tray control

3 **Fitting radius** — inner radius of bends (mm) → **Apply**. **Supports** — support span (mm) → **Apply**.



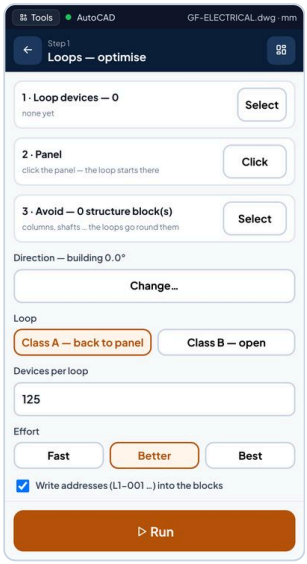
Fitting radius

26 Loop optimiser

The shortest fire-alarm (or any) loops round the columns and shafts, with addresses written into the blocks.

1 Type `DLLO`. **1 · Loop devices** — **Select** window over the devices (or **FA** takes the fire alarm devices placed); switch block names on / off with the chips. **2 · Panel** — **Click** the panel. **3 · Avoid** — **Select** the column / shaft blocks. Set the **direction**, **Class A / B**, **devices per loop** and the **effort** (Fast / Better / Best), tick **Write addresses**, then **Run**.

```
IN THE DRAWING — COMMAND LINE
> Select the loop devices
> Click the panel (start of the loops)
> Select the structure blocks (columns, shafts)
```



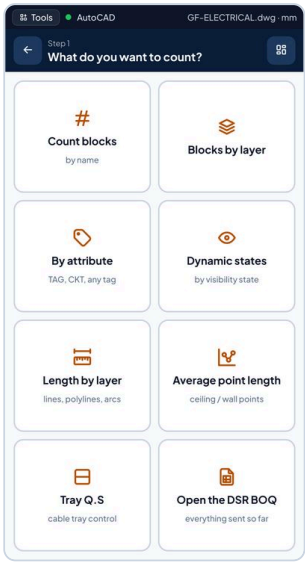
Loops — optimise

2 Preview in cyan → **Place them**. **Loops ✔** shows each loop's devices and length and the metres saved against the next-nearest order. **Run again** after moving devices — the old loops are replaced.

27 Quantities

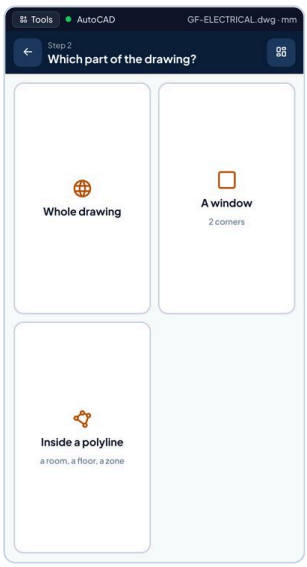
Counts and lengths straight from the drawing — as a table in the drawing or into the CPWD DSR BOQ.

1 Type `DLQ`. **What do you want to count?** — **Count blocks** by name, **Blocks by layer**, **By attribute** (TAG, CKT, any tag), **Dynamic states** (visibility state), **Length by layer** (lines, polylines, arcs), **Average point length** (ceiling / wall points from the looping), **Tray Q.S** and **Open the DSR BOQ**.



What do you want to count?

2 **Which part of the drawing?** — **Whole drawing**, **A window** or **Inside a polyline** (a room, a floor, a zone). Blocks inside xrefs are counted too.



Which part of the drawing?

3 The result table shows on screen. Then place it as a **table in the drawing** (click the top-left corner) or **send it to the DSR BOQ** — sending the same kind again replaces it.

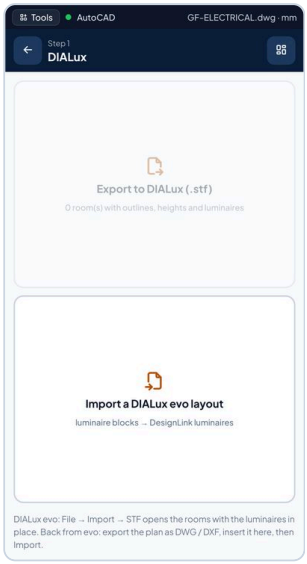
```
IN THE DRAWING — COMMAND LINE
> Top-left corner of the quantity table
```

28 DIALux

Rooms and luminaires to DIALux evo, and a DIALux layout back into DesignLink.

1 Type **DLDX**. **Export to DIALux (.stf)** — every room with its outline, height and luminaires as an STF file to open in DIALux evo. **Import a DIALux evo layout** — click one luminaire block of the DIALux plan, choose the part of the drawing, tell which DesignLink luminaire it is, then **Replace with my symbol** or **Keep the DIALux blocks**.

```
IN THE DRAWING — COMMAND LINE
> Click one luminaire block of the DIALux plan
```



DIALux

29 CPWD DSR BOQ

Everything placed and counted, priced on CPWD DSR in the 5-sheet BOQ (Summary, BOQ, Take Off, Rate Analysis DSR and Non-DSR).

1 Drive home → **CPWD DSR BOQ** (or expert view → Schematics → **CPWD DSR BOQ**). With several drawings open: **Include all open drawings?** — **All open drawings** (one BOQ, a Take Off per drawing / floor) or **Only this drawing**. A drawing without a DesignLink session is marked — open Daily work in it once.



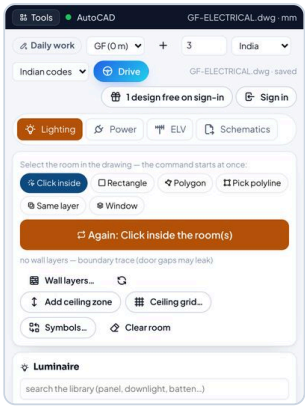
Include all open drawings? (3 open: GF-ELECTRICAL.dwg, FF-ELECTRICAL.dwg, SF-ELECTRICAL.dwg)

2 The DSR BOQ page opens in the palette with the items, quantities and rates; download the Excel (needs a credit).

30 The expert view (all buttons)

The same engine as Drive mode, every button on one page — for quick single actions.

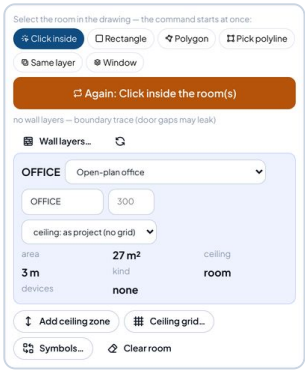
1 In Drive mode click the **dashboard icon** (top right). The top bar: **floor** list and **+** (add a floor), **ceiling height**, **socket regime** (India / UK / EU / Gulf / US), **codes** (Indian / International), **Drive** (back to drive mode), sign-in. Tabs: **Lighting · Power · ELV · Schematics**.



Daily work — lighting, power, ELV in the drawing — designlink calc

2 The room card: the selection chips start the command at once — **Click inside**, **Rectangle**, **Polygon**, **Pick polyline**, **Same layer**, **Window**; the big button repeats it. The card shows the room name, type, lux, ceiling and devices. **Add ceiling zone**, **Ceiling grid…**, **Symbols…** (your own blocks) and **Clear room**.

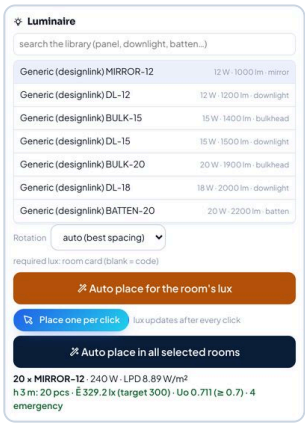
```
IN THE DRAWING — COMMAND LINE
> Click inside a room (1 selected) — Enter to finish:
```



Daily work — lighting, power, ELV in the drawing — designlink calc

3 **Lighting** — search and click a luminaire, choose the rotation, then **Auto place for the room's lux** (result: count, W, LPD, Ē, Uo, emergency) or **Place one per click** (lux updates after every click). With several rooms: **Auto place in all selected rooms**.

```
IN THE DRAWING — COMMAND LINE
> Place <luminaire> — Esc to stop
```



Daily work — lighting, power, ELV in the drawing — designlink calc

4 **Power** — choose a point type (fan, sockets by regime, AC point, isolator, industrial, floor box), then **Place by click (wall-snapped)** or **Auto for this room**.

```
IN THE DRAWING — COMMAND LINE
> Place 6 A socket (India) — Esc to stop
```

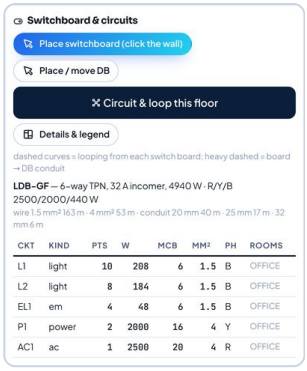


Daily work — lighting, power, ELV in the drawing — designlink calc

5 **Switchboard & circuits** — **Place switchboard (click the wall)**, **Place / move DB**, then **Circuit & loop this floor**: the circuit table (Ckt · Kind · Pts · W · MCB · mm² · Ph · Rooms) and the looping drawn. **Details & legend** places the detail sheet.

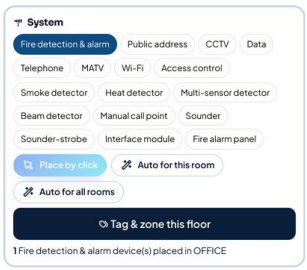
IN THE DRAWING — COMMAND LINE

```
> Click the wall for the switchboard — Esc to cancel
> Click the DB position (wall)
```



Daily work — lighting, power, ELV in the drawing — designlink calc

6 **ELV** — system chips (fire alarm, PA, CCTV, data, telephone, MATV, Wi-Fi, access control) and their devices; **Place by click**, **Auto for this room**, **Auto for all rooms** and **Tag & zone this floor**.

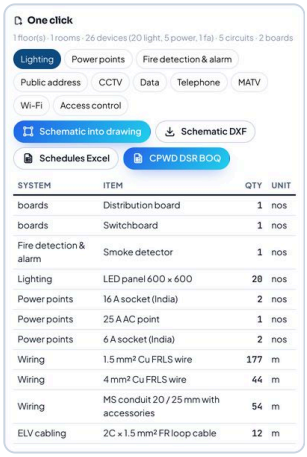


Daily work — lighting, power, ELV in the drawing — designlink calc

7 **Schematics** — the floor summary and the BOQ table. Choose a system, then **Schematic into drawing**, **Schematic DXF**, **Schedules Excel** or **CPWD DSR BOQ** (the Excel files need a credit).

IN THE DRAWING — COMMAND LINE

```
> Insertion point for the DesignLink drawing:
```

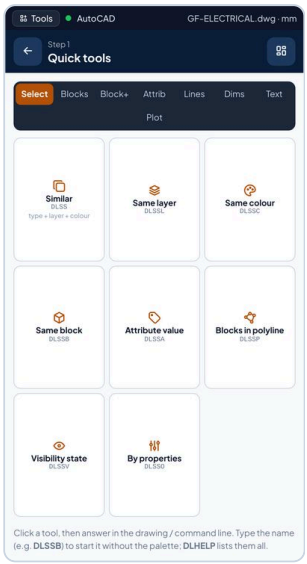


Daily work — lighting, power, ELV in the drawing — designlink calc

31 Quick tools

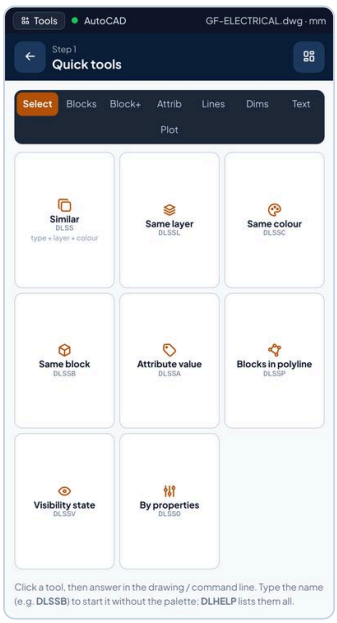
57 drafting tools for everyday CAD work — selection, blocks, attributes, lines, dimensions, text, plotting and xrefs. Click a tile and answer in the drawing, or type the command.

1 Type `DLQT` (or Drive home → Quick tools). Tabs on top: **Select · Blocks · Block+ · Attrib · Lines · Dims · Text · Plot**. Each tile shows its command name (e.g. `DLSSB`) — click it, then answer on the command line. Typed commands work without the palette; `DLHELP` lists them all.



Quick tools

Select



Quick tools → Select

Tile · command	What it does	Command line, in order

Similar `DLSS`	Select every object like the picked one: same type + layer + colour (and same block name for blocks).	`> Select an object:`
		`> Where [All/Window/Polyline] <All>:`
		`> [Window] Select the area (window):`
		`> [Polyline] Select the closed polyline / circle around the area:`

Same layer `DLSSL`	Select every object on the same layer as the picked one.	`> Select an object:`
		`> Where [All/Window/Polyline] <All>:`
		`> [Window] Select the area (window):`
		`> [Polyline] Select the closed polyline / circle around the area:`

Same colour `DLSSC`	Select every object with the same colour as the picked one.	`> Select an object:`
		`> Where [All/Window/Polyline] <All>:`
		`> [Window] Select the area (window):`
		`> [Polyline] Select the closed polyline / circle around the area:`

Same block `DLSSB`	Select every block with the same name as the picked block.	`> Select a block:`
		`> Where [All/Window/Polyline] <All>:`
		`> [Window] Select the area (window):`
		`> [Polyline] Select the closed polyline / circle around the area:`

Attribute value `DLSSA`	Select all blocks carrying the same attribute (tag + value, or tag only).	`> Click the attribute text inside a block:` `> Match <TAG> [Value/Tag] (value = "<value>") <Value>:`
Blocks in polyline `DLSSP`	Select the blocks with the same name that lie inside a closed polyline / circle.	`> Select a block:` `> Select the closed polyline / circle around the area:`

Visibility state `DLSSV`	Select blocks with the same name and the same dynamic visibility state.	`> Select a block:`
		`> Where [All/Window/Polyline] <All>:`
		`> [Window] Select the area (window):`
		`> [Polyline] Select the closed polyline / circle around the area:`

By properties DLSSO	Select objects matching the picked one on a chosen set of properties.	`> Match which properties — letters T type, L layer, C colour, Y linetype, B block, W lineweight, X text <TL>:`
		`> Select an object:`
		`> Where [All/Window/Polyline] <All>:`
		`> [Window] Select the area (window):`
		`> [Polyline] Select the closed polyline / circle around the area:`

Blocks



Quick tools → Blocks

Tile · command	What it does	Command line, in order

Replace blocks DLBRE	Replace selected blocks by another block, keeping position, angle, scale, layer and attribute values.	`> Select the blocks to replace:`
		`> Replacement block [Pick/Name] <Pick>:`
		`> [Pick] Select the replacement block:`
		`> [Name] Block name:`
		`> Scale [Keep/One] <Keep>:`

Replace in drawings DLBRB	Replace a block in other (closed) drawings by a block from this drawing.	`> New block (from this drawing) [Pick/Name] <Pick>:`
		`> [Pick] Select the new block (from this drawing):`
		`> [Name] Block name:`
		`> Block to replace in the other drawings <<new block name>>:`
		`> File dialog 'Drawings where <target> becomes <new>' (Drawings (*.dwg), multi-select)`

Rename all DLRBB	Rename a block definition (every copy in the drawing).	`> Select the block to rename (every copy in the drawing):` `> New name for <old>:`
Rename these DLRB	Give only the selected copies of a block a new name (the others keep the old one).	`> Select the block copies to give a new name (others keep the old one):` `> New name for the selected <old> <<old>_A>:`

Duplicate DLDB	Duplicate a block definition under a new name.	`> Select the block to duplicate:`
		`> Name of the copy <<name>_COPY>:`
		`> Switch the picked block to the copy [Yes/No] <No>:`

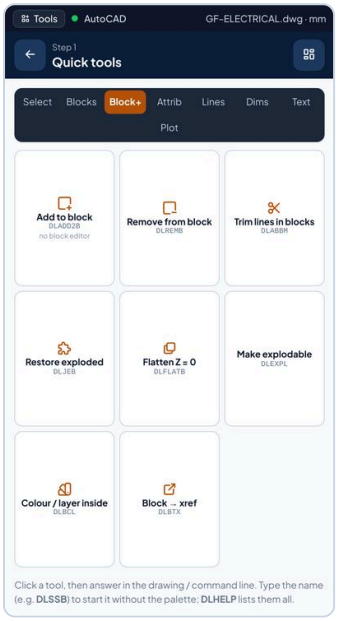
Quick block DLQB	Quick block: turn selected objects into a block in one go.	`> Select the objects for the new block:`
		`> Block name <QB_HHmmss>:`
		`> Base point:`

Base point DLCBPR	Change a block's base point without moving any copy in the drawing.	`> Select the block:` `> New base point:`
Default rotation DLROT0	Make a block's present rotation its normal 0° rotation.	`> Select a block whose present rotation should become its normal (0°) rotation:`
Default scale DLSC0	Make a block's present scale its scale 1.	`> Select a block whose present scale should become its scale 1:`

Rotate many DLROTM	Rotate many blocks, each about its own base point (add an angle or set an absolute angle).	`> Select the blocks to rotate (each about its own base point):`
		`> Angle [Add/Set] <Add>:`
		`> [Add] Rotate by (degrees, + = anticlockwise): (number; default 90; zero and negative allowed; the CAD shows the default as <…>, Enter accepts it)`
		`> [Set] Set every block to (degrees): (number; default 90; zero and negative allowed; the CAD shows the default as <…>, Enter accepts it)`
		`> Keep attribute text readable [Yes/No] <Yes>:`

Rescale many `DLRESB`	Rescale many blocks, each about its own base point.	`> Select the blocks to rescale (each about its own base point):` `> Factor (1.5 = 50 % bigger): (number; default 1.5; must be > 0; the CAD shows the default as <…>, Enter accepts it)`
Dynamic → static `DLD2R`	Convert dynamic blocks to static blocks (one static block per dynamic block + visibility state).	`> Select the dynamic blocks to make static:`

Block+



Quick tools → Block+

Tile · command	What it does	Command line, in order

Add to block `DLADD2B`	Add objects to a block definition without the block editor (every copy changes).	`> Select the objects to add to a block:`
		`> Select the block to add them to:`
		`> Keep the originals in the drawing [Yes/No] <No>:`

Remove from block `DLREMB`	Remove objects from a block definition by clicking them inside a block (repeats).	`> Leave a copy of each removed object in the drawing [Yes/No] <No>:` `> Click an object inside a block to remove it (Enter to finish):`
Trim lines in blocks `DLABBM`	Cut the lines/polylines/arcs that run through blocks at the block outline.	`> Select the blocks (lines running through them are cut at their outline):` `> Extra gap around each block: (number; default 0; zero allowed; the CAD shows the default as <…>, Enter accepts it)`

Restore exploded `DLJEB`	Restore exploded blocks: find the exploded pieces of a block among selected objects and put block references back.	`> Block to restore [Pick/Name] <Pick>:`
		`> [Pick] Select the block to restore:`
		`> [Name] Block name:`
		`> Select the exploded objects (a window over them):`
		`> The copies may be scaled [Yes/No] <No>:`

Flatten Z = 0 `DLFLATB`	Flatten blocks to Z = 0 (their contents, nested blocks and the references).	`> Flatten [Selected/All] blocks <Selected>:` `> [Selected] Select the blocks to flatten:`
Make explodable `DLEXPL`	Make every block in the drawing explodable.	

Colour / layer inside `DLBCL`	Set the colour and/or layer of the objects inside blocks (nested too).	`> Select the blocks:`
		`> Colour of the objects inside [Block/Layer/Number/Keep] (ByBlock, ByLayer, a colour, unchanged) <Block>:`
		`> [Number] Colour number (1-255): (number; default 7; the CAD shows the default as <…>, Enter accepts it)`
		`> Layer of the objects inside [Zero/Name/Keep] <Zero>:`
		`> [Name] Layer name <0>:`

Block → xref `DLBTX`	Turn a block into an xref: save it as a DWG and replace every copy by the xref.	`> Select the block to turn into an xref:`
		`> Save the block as <<drawing folder or My Documents>\<name>.dwg>:`
		`> [file exists] <file>.dwg exists — overwrite [Yes/No] <No>:`

Attributes



Quick tools → Attributes

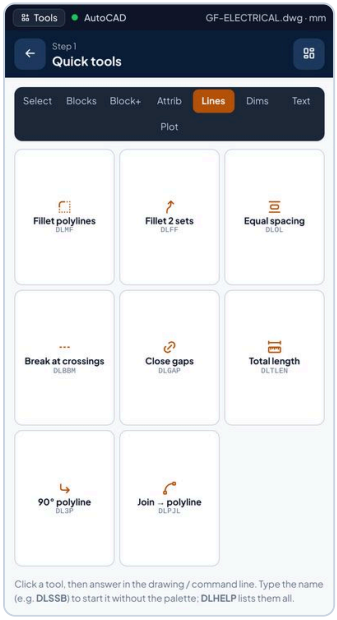
Tile · command	What it does	Command line, in order

Change attributes `DLATTC`	Change attributes of selected blocks: rotation, height, colour, upright or layer.	`> Select the blocks:`
		`> Attribute tag (* = all) <*>:`
		`> Change [Rotation/Height/Colour/Upright/Layer] <Upright>:`
		`> [Rotation] Text angle in the drawing (degrees): (number; default 0; zero and negative allowed; the CAD shows the default as <…>, Enter accepts it)`
		`> [Height] Text height: (number; default TEXTSIZE if > 0, else 250 mm in drawing units; the CAD shows the default as <…>, Enter accepts it)`
		`> [Colour] Colour number (0 = ByBlock, 256 = ByLayer): (number; default 256; the CAD shows the default as <…>, Enter accepts it)`
		`> [Layer] Layer <0>:`

Hide attributes `DLINVATT`	Hide attributes (selected blocks or all blocks).	`> [Select/All] blocks <Select>:`
		`> [Select] Select the blocks:`
		`> Attribute tag (* = all) <*>:`

Show attributes `DLSHOWATT`	Show attributes again (selected blocks or all blocks).	`> [Select/All] blocks <Select>:`
		`> [Select] Select the blocks:`
		`> Attribute tag (* = all) <*>:`

Lines



Quick tools → Lines

Tile · command	What it does	Command line, in order
Fillet polylines `DLMF`	Fillet every corner of selected polylines with one radius.	`> Select the polylines to fillet:` `> Fillet radius: (number; default FILLETRAD if > 0, else 300 mm in drawing units; the CAD shows the default as <…>, Enter accepts it)`

Fillet 2 sets `DLFF`	Fillet two sets of parallel lines with concentric bends (e.g. a bundle of conduits turning a corner).	`> Select the first set of parallel lines:`
		`> Select the second set of parallel lines:`
		`> Radius of the inner bend: (number; default FILLETRAD if > 0, else 300 mm in drawing units; the CAD shows the default as <…>, Enter accepts it)`

Equal spacing `DLOL`	Space parallel lines/polylines equally between the outer two.	`> Select the parallel lines / polylines (the outer two stay):`

Break at crossings `DLBBM`	Break lines at their crossings with a gap.	`> Select the lines / polylines / arcs:`
		`> Gap at each crossing: (number; default 150 mm in drawing units; the CAD shows the default as <…>, Enter accepts it)`
		`> At a crossing break the [Later/Horizontal/Vertical] one <Later>:`

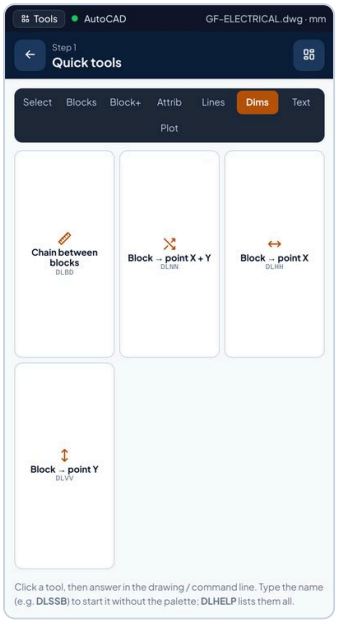
Close gaps `DLGAP`	Close gaps in broken straight lines (merge collinear pieces).	`> Select the broken lines:` `> Largest gap to close: (number; default 500 mm in drawing units; the CAD shows the default as <…>, Enter accepts it)`

Total length `DLTLEN`	Total length of selected curves by layer (optionally as a table).	`> Select lines, polylines, arcs …:`
		`> Place a table [Yes/No] <No>:`
		`> [Yes] Table position (top-left):`

90° polyline `DL3P`	Draw 90° (L-shaped) polylines from start point, end point and the side of the bend (repeats).	`> Start point (Enter to finish):`
		`> End point:`
		`> Click on the side of the bend:`

Join → polyline `DLPJL`	Join lines and arcs into polylines.	`> Select the lines and arcs to join:` `> Join ends closer than: (number; default 1 mm in drawing units; zero allowed; the CAD shows the default as <…>, Enter accepts it)`

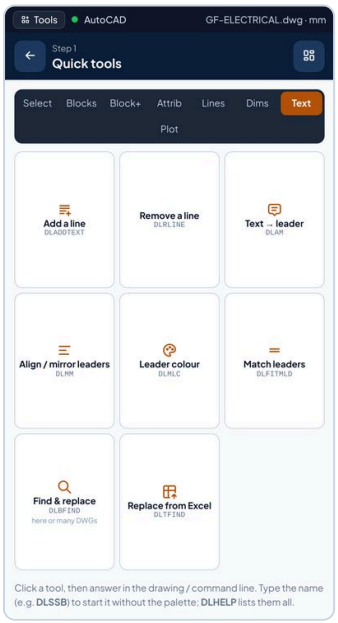
Dimensions



Quick tools → Dimensions

Tile · command	What it does	Command line, in order
Chain between blocks `DLBD`	Chain dimensions between blocks in a row.	`> Select the blocks in a row:` `> Position of the dimension line:`
Block → point X + Y `DLNN`	Dimension from a block to a wall / column point in X and Y (repeats).	`> Select a block (Enter to finish):` `> Point on the wall / column:`
Block → point X `DLHH`	Dimension from a block to a wall / column point — horizontal (X) only (repeats).	`> Select a block (Enter to finish):` `> Point on the wall / column:`
Block → point Y `DLVV`	Dimension from a block to a wall / column point — vertical (Y) only (repeats).	`> Select a block (Enter to finish):` `> Point on the wall / column:`

Text



Quick tools → Text

Tile · command	What it does	Command line, in order

Add a line `DLADDTEXT`	Add a line of text at the top or bottom of texts, mtexts or multileaders.	`> Select texts, mtexts or multileaders:`
		`> Line to add:`
		`> Add it at the [Top/Bottom] <Bottom>:`

Remove a line `DLRLINE`	Remove the first, last or n-th line from mtexts or multileaders.	`> Select mtexts or multileaders:`
		`> Remove the [First/Last/Number] line <Last>:`
		`> [Number] Line number (1 = top): (number; default 2; the CAD shows the default as <…>, Enter accepts it)`

Text → leader `DLAM`	Turn texts into multileaders — one arrow point per text.	`> Select the texts to turn into leaders:` `> Arrow point for "<first 30 characters of the text>…" (Enter to stop):`

Align / mirror leaders `DLMM`	Align or mirror multileader texts.	`> Select the multileaders:`
		`> [Align/Mirror] the text <Align>:`
		`> [Align] Line the texts up [Vertical/Horizontal] <Vertical>:`
		`> [Align, Vertical] Click where the text edges should line up:`
		`> [Align, Horizontal] Click the height for the texts:`

Leader colour `DLMLC`	Recolour multileaders (entity, leader line and text).	`> Select the multileaders:` `> Colour number (1-255, 256 = ByLayer): (number; default 1; the CAD shows the default as <…>, Enter accepts it)`
Match leaders `DLFITMLD`	Make multileaders match a reference multileader (text height, text width, arrow size, landing).	`> Select the reference multileader:` `> Select the multileaders to match it:`

Find & replace `DLBFIND`	Find & replace text in this drawing or in many drawings.	`> Find:`
		`> Replace with (Enter = delete it):`
		`> Match upper / lower case [Yes/No] <No>:`
		`> Replace in [Drawing/Files] <Drawing>:`
		`> [Files] File dialog 'Drawings to change' (Drawings (*.dwg), multi-select)`

Replace from Excel `DLTFIND`	Find & replace with a word list (Excel columns from the clipboard, or an .xlsx/.csv/.txt file).	`> Word list from [Clipboard/File] (column A = find, B = replace) <Clipboard>:`
		`> [File] File dialog 'Word list: column A find, column B replace' (Excel / CSV (*.xlsx;*.csv;*.txt))`
		`> Match upper / lower case [Yes/No] <No>:`
		`> Replace in [Drawing/Files] <Drawing>:`
		`> [Files] File dialog 'Drawings to change' (Drawings (*.dwg), multi-select)`

Plot & xref



Quick tools → Plot & xref

Tile · command	What it does	Command line, in order
Plot all layouts `DLLPLOT`	Plot all layouts (or the current one), each with its own page setup.	`> Plot [All/Current] layout(s) — <n> in the drawing, each with its own page setup <All>:`
Printer for all `DLLPRIN`	Set the same printer / plotter on every layout.	`> (numbered list of plot devices, current marked '(now)')` `> Number of the printer / plotter (1–<n>): (number; default the device of the first layout; the CAD shows the default as <…>, Enter accepts it)`
Pen table for all `DLLPEN`	Set the same pen table (.ctb / .stb) on every layout.	`> (numbered list of plot style tables, current marked '(now)')` `> Number of the pen table (.ctb / .stb) (1–<n>): (number; default the table of the first layout; the CAD shows the default as <…>, Enter accepts it)`
Layouts → drawings `DLL2D`	Split layouts into separate drawings (one DWG per layout).	`> [unsaved changes] The drawing has unsaved changes that will not be included — go on [Yes/No] <No>:` `> Folder for the new drawings <<drawing folder>>:`

Xref colour `DLCXR`	Set the colour of xref layers (all xrefs or one picked xref).	`> Colour [Pick/All] xrefs <All>:`
		`> [Pick] Select the xref:`
		`> Colour number (8 = grey, 252 = light grey): (number; default 8; the CAD shows the default as <…>, Enter accepts it)`

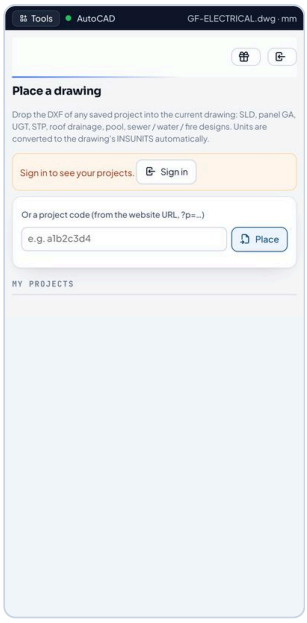
Bind all xrefs `DLTBIND`	Bind all loaded xrefs.	`> [Insert/Bind] (Insert merges layer names, Bind keeps the xref name$0$ prefix) <Insert>:`

32 Place a drawing from your projects

Drop the DXF of any saved calc project into the open drawing — SLD, panel GA, UGT, STP, roof drainage, sewer / water / fire networks, sprinkler and lighting layouts … Units are converted to the drawing's units.

1. Tool menu → **Place a drawing from my projects**. Signed in, **My projects** lists every project with a drawing — click **Place**. Or type a project code (from the website URL, `?p=…`) and click **Place**.

```
IN THE DRAWING — COMMAND LINE
> Insertion point for the DesignLink drawing:
```



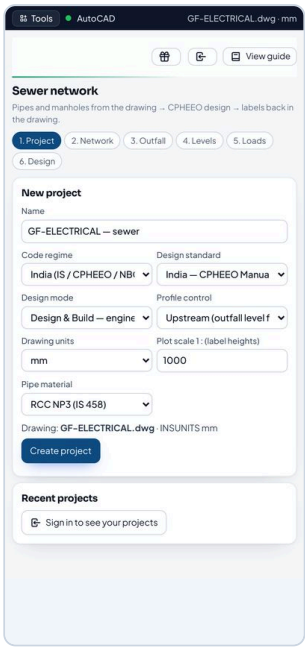
Place a drawing — designlink calc CAD

2. Click the insertion point in the drawing. The log shows "<drawing> <code>: n object(s) placed". Free in the plugin.

33 Sewer and storm-water wizards

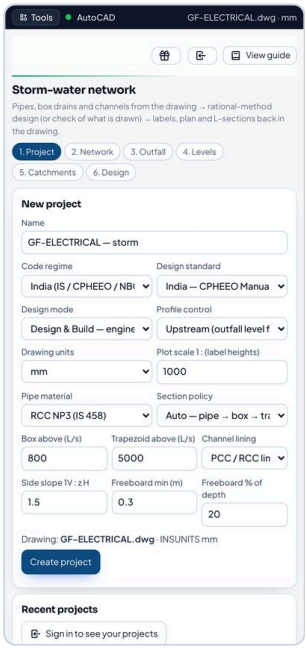
Six steps in the palette: pipes and manholes read from the drawing → CPHEEO / rational-method design → labels, plan and L-sections back in the drawing.

1 Tool menu → **Sewer network (palette wizard)**. **1. Project** — name, code regime, design standard, design mode (Design & Build or Design Only — check what is drawn), profile control, drawing units, plot scale, pipe material → **Create project**.



Sewer network — designlink calc CAD

2 Storm-water adds the section policy (pipe → box → trapezoid by flow), lining, side slope and freeboard.



Sewer network — designlink calc CAD

3 **2. Network** — **Select in drawing** the lines and manhole symbols (Design Only: also the texts), **By layers…** or **Whole drawing** → **Build network**; join gaps and fix pieces without an outfall.

IN THE DRAWING — COMMAND LINE

```
> Select objects to send to DesignLink:
```

4

3. Outfall — **Pick outfall in drawing**. **4. Levels** — click a level text, along an alignment, or nearest levels; type the rest. **5. Loads** (buildings / point loads) or **Catchments** (IDF + rational method).

IN THE DRAWING — COMMAND LINE

```
> DesignLink: pick the outfall manhole:
> DesignLink: click a level text:
```

5

6. Design — **Run design** (or **Run check**) → reaches and manholes tables. **Label the design in the drawing**, the plan + L-sections and sheet sets are free in the plugin; the report and Excel need a credit.

34 Troubleshooting

Most problems are a closed palette, a missing drawing or the units.

You see	Do this
Typed DESIGNLINK, no palette	Wait a few seconds, then `DLWINDOW`. Still nothing: `DLDIAG` and send the text to support.
“WebView2 did not start in 25 s”	Close every AutoCAD / ZWCAD, delete `%LOCALAPPDATA%\DesignLink\CAD\WebView2`, open again.
“WebView2 could not start” / blank palette	Run Setup again (it installs the Microsoft Edge WebView2 runtime).
“Could not load the page — check internet / proxy”	The PC cannot reach calc.designlink.in; check the connection, then click the grey strip to retry.
“no reply from CAD (is a drawing open?)”	Open a drawing (or click into it) and try again.
Rooms come out 1000× too big or small	Setup → **Units & scale** and pick the unit that gives the real size.
“no closed boundary around that point”	Set the wall layer (Click a wall line) or use Rectangle / Polygon / Pick polyline for that room.
A plugin file is missing / wrong build	Close CAD, run Setup again, send `DLDIAG` if it repeats.
Plugin not loading in AutoCAD 2026 / 2027	Run the current Setup (it installs into Program Files), restart AutoCAD.
Plugin not loading in a new ZWCAD	`NETLOAD` the ZWCAD DLL once and type `DLAUTOLOAD`, or run Setup again.
Sign-in code not arriving	Check spam; the code is valid 10 minutes — sign in again for a new one.

Support: send the output of `DLDIAG` (and `DLCHECK` when a drawing operation fails) to hello@designlink.in.

35 Every command

All commands the plugin adds to AutoCAD / ZWCAD. The prompts are what the command line shows.

Palette and support

Command	What it does
`DESIGNLINK`	Open the DesignLink palette (calc.designlink.in in CAD mode).
`DLPALETTE`	Alias of DESIGNLINK — open/show the docked palette.
`DLWINDOW`	Open DesignLink in a separate floating window instead of the docked palette.
`DLHOME`	Show the palette and go to the DesignLink CAD home page.
`DLLOGOUT`	Sign out of DesignLink in the palette.
`DLABOUT`	Print plugin version, host CAD/version, .NET runtime and the main commands.
`DLDIAG`	Diagnostics: print versions, dependency check, WebView2 runtime and the last 30 log lines.
`DLAUTOLOAD`	Make the CAD load the plugin at every start.

Drive shortcuts and selection

Command	What it does
`DLSS`	Select every object like the picked one: same type + layer + colour (and same block name for blocks).
`DLSSL`	Select every object on the same layer as the picked one.
`DLSSC`	Select every object with the same colour as the picked one.
`DLSSB`	Select every block with the same name as the picked block.

DLSSP	Select the blocks with the same name that lie inside a closed polyline / circle.
DLSSV	Select blocks with the same name and the same dynamic visibility state.
DLSSA	Select all blocks carrying the same attribute (tag + value, or tag only).
DLSSO	Select objects matching the picked one on a chosen set of properties.
DLHELP	List all quick tools and drive shortcuts on the command line.
DLCHECK	Self-test of this CAD: runs every drawing-only bridge method on a scratch layer and removes the test objects again.
DLQT	Open the palette on Quick tools.
DLD	Drive mode → Drive home.
DLL	Drive mode → Lighting.
DLP	Drive mode → Power points.
DLF	Drive mode → Fire alarm.
DLFL	Drive mode → Fire alarm loops.
DLS	Drive mode → Sprinklers.
DLW	Drive mode → Wiring & looping.
DLT	Drive mode → Cable tray & feeders.
DLTO	Drive mode → Toilet plumbing.
DLHV	Drive mode → HVAC ducts & units.
DLCP	Drive mode → Car-park ventilation.
DLEA	Drive mode → Lightning & earthing.
DLGS	Drive mode → Gas suppression.
DLEL	Drive mode → ELV cabling & racks.
DLHF	Drive mode → HVLS fans.
DLE	Drive mode → Change what was placed.
DLN	Drive mode → Number the devices.
DLU	Drive mode → Undo the last run?.
DLCT	Drive mode → Cable tray control.
DLLO	Drive mode → Loops.
DLAX	Drive mode → Building direction.
DLQ	Drive mode → Quantities.
DLDX	Drive mode → DIALux.
DLSET	Drive mode → Setup.

Blocks

Command	What it does
DLRBB	Rename a block definition (every copy in the drawing).
DLRB	Give only the selected copies of a block a new name (the others keep the old one).
DLDB	Duplicate a block definition under a new name.

`DLCBPR`	Change a block's base point without moving any copy in the drawing.
`DLROT0`	Make a block's present rotation its normal 0° rotation.
`DLSC0`	Make a block's present scale its scale 1.
`DLROTM`	Rotate many blocks, each about its own base point (add an angle or set an absolute angle).
`DLRESB`	Rescale many blocks, each about its own base point.
`DLQB`	Quick block: turn selected objects into a block in one go.
`DLADD2B`	Add objects to a block definition without the block editor (every copy changes).
`DLREMB`	Remove objects from a block definition by clicking them inside a block (repeats).
`DLABBM`	Cut the lines/polylines/arcs that run through blocks at the block outline.
`DLFLATB`	Flatten blocks to Z = 0 (their contents, nested blocks and the references).
`DLEXPL`	Make every block in the drawing explodable.
`DLBCL`	Set the colour and/or layer of the objects inside blocks (nested too).
`DLBTX`	Turn a block into an xref: save it as a DWG and replace every copy by the xref.
`DLBRE`	Replace selected blocks by another block, keeping position, angle, scale, layer and attribute values.
`DLBRB`	Replace a block in other (closed) drawings by a block from this drawing.
`DLD2R`	Convert dynamic blocks to static blocks (one static block per dynamic block + visibility state).
`DLJEB`	Restore exploded blocks: find the exploded pieces of a block among selected objects and put block references back.

Lines and dimensions

Command	What it does
`DLMF`	Fillet every corner of selected polylines with one radius.
`DLFF`	Fillet two sets of parallel lines with concentric bends (e.g. a bundle of conduits turning a corner).
`DLOL`	Space parallel lines/polylines equally between the outer two.
`DLBBM`	Break lines at their crossings with a gap.
`DLGAP`	Close gaps in broken straight lines (merge collinear pieces).
`DLTLEN`	Total length of selected curves by layer (optionally as a table).
`DL3P`	Draw 90° (L-shaped) polylines from start point, end point and the side of the bend (repeats).
`DLPJL`	Join lines and arcs into polylines.
`DLBD`	Chain dimensions between blocks in a row.
`DLNN`	Dimension from a block to a wall / column point in X and Y (repeats).
`DLHH`	Dimension from a block to a wall / column point — horizontal (X) only (repeats).
`DLVV`	Dimension from a block to a wall / column point — vertical (Y) only (repeats).

Text, plot and xrefs

Command	What it does
`DLADDTEXT`	Add a line of text at the top or bottom of texts, mtexts or multileaders.
`DLRLINE`	Remove the first, last or n-th line from mtexts or multileaders.

`DLAM`	Turn texts into multileaders — one arrow point per text.
`DLMM`	Align or mirror multileader texts.
`DLMLC`	Recolour multileaders (entity, leader line and text).
`DLFITMLD`	Make multileaders match a reference multileader (text height, text width, arrow size, landing).
`DLBFIND`	Find & replace text in this drawing or in many drawings.
`DLTFIND`	Find & replace with a word list (Excel columns from the clipboard, or an .xlsx/.csv/.txt file).
`DLCXR`	Set the colour of xref layers (all xrefs or one picked xref).
`DLTBIND`	Bind all loaded xrefs.
`DLLPRIN`	Set the same printer / plotter on every layout.
`DLLPEN`	Set the same pen table (.ctb / .stb) on every layout.
`DLLPLOT`	Plot all layouts (or the current one), each with its own page setup.
`DLL2D`	Split layouts into separate drawings (one DWG per layout).
`DLATTC`	Change attributes of selected blocks: rotation, height, colour, upright or layer.
`DLINVATT`	Hide attributes (selected blocks or all blocks).
`DLSHOWATT`	Show attributes again (selected blocks or all blocks).