

Overhead line design, from the pole to the drawing

nPoles Field and Desktop

Field-ready software that surveys an overhead distribution line, builds the model, checks it and documents it: stringing charts, clearances, pole loads, footings, schedules and CAD, on the standards of Australia's distribution companies.



A pole line on Victorian aerial imagery, with property boundaries and survey marks switched on

Survey at the pole

Total stations and RTK GNSS read straight into the job: pole tops, circuit and insulator heights, conductor offsets and stays, measured once.

The distributor's standards, loaded

17 company profiles across every state and territory: stringing chart libraries, pole, crossarm and insulator databases, description codes and clearance rules.

From the job to the drawing

Schedules, a Job Change Report, pole load reports as PDF, DXF and LandXML, and construction plans through nPoles PPE.

One model, every check

Stringing charts, MES, Chart Finder, clearances and pole loads all read the same surveyed points, so a change is checked everywhere at once.

The map under the survey

Aerial imagery, survey marks and property boundaries under the job, with GDA2020, ground coordinates and mine grids handled properly.

The job is safe

Crash-proof saving, Undo with a history of what each step changes, point backups with notes, and recovery from the survey log.



See it on your own job

Download nPoles from npoles.com: it runs with every feature switched on during the trial. Quotes through the customer portal at portal.npoles.com or by email.

nPoles Field mini

The Android collector that hands its jobs straight to nPoles. Every Field or Desktop subscription earns a Field mini licence free for 12 months.

Survey it once, at the pole

The point editor: a pole's circuits with their conductor strings, heights and insulator offsets, and a tab for everything else a pole carries

Total stations, Bluetooth or cable

Leica, GeoMax and Sokkia instruments are driven from inside nPoles. The reading lands in the box being filled: the pole top, a circuit or insulator height, a conductor offset or a stay, on any of the 24 circuits a pole can carry.

Reflectorless shots in 3D

A reflectorless read on a crossarm, stay or conductor keeps its full easting, northing and level. Measured values show tinted and a long press shows the shot, so a typed number never passes for a measured one.

RTK GNSS

Receivers over the network or Bluetooth, corrections from an NTRIP caster or from your own base, with stake out, site calibration, short occupations and heights on AHD. A base check catches a base left running on the wrong coordinate.

Everything a pole carries

24 circuits with left, centre and right positions and a remark each, stays, footing, plant and equipment. Description codes show their plan symbol and meaning, and point strings take names such as kerb or William St.

Survey in, survey out

LandXML from Topcon, Trimble, Leica and 12d controllers, CSV files, points from other jobs and legacy POLES files, checked for their coordinate system, and LandXML back out for stake out with any controller.

Made for outdoors

High-contrast forms, controls that read in daylight, an on-screen keyboard with the degree and diameter symbols for gloved hands, and dialogs that always open on a screen that is connected.

Why text and forms

The surveying and engineering screens are text and forms by design. They stay readable on a rugged tablet in full sun, where fine graphics wash out. The 3D views serve the office; the field work never depends on them.

Coordinates you can hand over

GDA94 and GDA2020 through the official ICSM grid, ground coordinates about a nominated origin mark, a job tied onto supplied control with every residual shown, and Latrobe Valley mine grids held as MGA references.



Charts from a nominal span or a percentage of breaking load, sag and condition charts over any range, slacker charts for messenger cables, and plots straight into CAD as an AutoCAD script or a FreeCAD macro.

Mean equivalent spans with the inclined-span formula of AS/NZS 7000, route and conductor lengths, and a Chart Finder that turns measured sags into the chart a conductor is actually strung to, phase by phase.

Ground, objects and buildings, circuit to circuit and phase to phase, mid-span and uplift, by MES or individual span design, on every circuit of every pole, including a planned surface such as a road cut yet to be made.



Wind on the pole, crossarms, insulators and transformer, conductor tensions from the charts, and stays, for the standard conditions and any others. Bending moment and deflection against capacity; timber strength from the species and the measured girth.

Rated inside Pole Load: the Victorian SECV (Devereaux) method, and Brinch Hansen in single and layered soils with profiles from a geotechnical report.

Route View 3D, PoleSketch 3D and Clearance 3D draw the line as surveyed. Click any object for its properties, each value marked surveyed, from the database or estimated, and measure between any two points.



AS/NZS 7000 allows proven Design Stress methods, and most Australian distributors run a hybrid: stringing charts and easements on Design Stress, poles checked under Limit State, footings by the Victorian method. nPoles holds both methods on one job, the way the design is actually done.

Everything around the design

String	Desc.	Conductor	Chart	MES	Status	# Cnds	Reference	Volt
1	22kV	6/.186 7/.062 - ACSR/GZ	CS1(EVX18/26 (6/1/x)-)	78	Existing	3		22
2	LV	7/.080 - Cu	CS2(VX18/22-)	78	Existing	4		LV
3	22kV	6/.186 7/.062 - ACSR/GZ	CS3(MID VX18/22 & VX18/26+)	64	Existing	3		22
4	LV ABC	4 X 95 - LV ABC	CS4(EVX18/341 Medium+)	64	Existing	1		LV ABC
5	LV ABC	2 X 25 - LV ABC	CS5(EVX18/363/12 Very Slack+)	18	Existing	1		LV ABC
6	LV ABC	4 X 95 - LV ABC	CS4(EVX18/341 Medium+)	64	Existing	1		LV ABC
7	LV ABC	4 X 95 - LV ABC	EVX18/342 Tight	64	Restraining	1		LV ABC

Conductor strings, one row per string: the conductor, its stringing chart, the MES, status and voltage

Map layers across Australia

Survey marks and property boundaries for Victoria, New South Wales, Queensland, South Australia, Tasmania and the ACT, nearly 700,000 marks, with SMES sketch plans, road casements and contours; New Zealand and Switzerland; and your own licensed GeoPackage.

Basemaps

OpenStreetMap everywhere, aerial imagery for Victoria, New South Wales, Queensland and Tasmania, national maps for 17 countries, and Street View a click away.

Company profiles and data

17 profiles with their chart libraries and databases; a Database Editor for poles, crossarms, insulators, timber species, transformers, description codes and abbreviations; data updates that keep a business's own edits.

Reports and exports

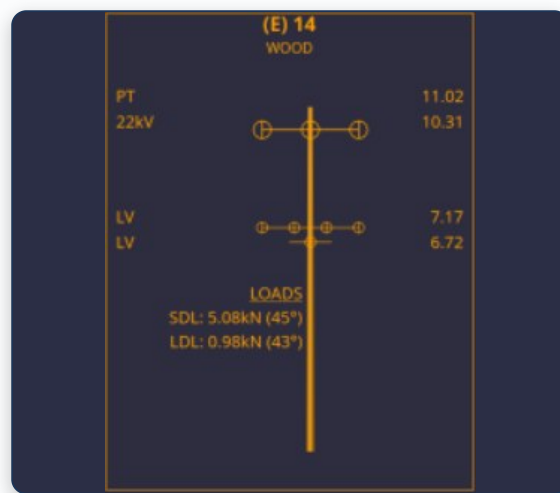
Conductor and joint-use schedules, a Job Change Report as PDF or spreadsheet, the detailed pole load report as PDF, Describe Point, DXF, LandXML, and the plan view as an image or PDF.

The job is safe

Crash-proof saving, Undo for point changes, point and string backups with notes and a Diff, recovery of a job from its survey log, and a crash report offered after a crash, sent only on OK.

Help inside the application

The reference manual on F1, the nPoles Assistant on Shift+F1 answering from the manual and about the open job, and What's New in plain language.



A pole schematic in the style of a pole schedule, saved as an image or exported to DXF

nPoles Field	Survey and design at the pole, with the live total station link
nPoles Desktop	The same design, checking and reporting, in the office
nPoles PPE	Construction plans from nPoles jobs: title block, conductor schedule, CAD script
nPoles Field mini	The Android collector: poles, conductors, maps and marks, offline

Licences are sold on subscription with maintenance, and the first 12 months are included with every new licence. Every version installs side by side and updates through the maintenance tool, and registration works through company firewalls.



See it on your own job

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