OVERVIEW

Solarflex – Installation Methods

Pre-wired solar conduit – two proven ways to run an East–West system.

Solarflex



01 What is Solarflex?

A pre-wired roll of 25 mm HD corrugated conduit with the DC cables and earth **already inside** — designed to save time, effort and money on residential solar. **"The hard work's already done."**

- **Faster** – no snaking; run it straight through roof and walls (up to 20% quicker)
- **Easier** – no A-frames, drums or snakes; less material in factory, van and on site
- **Safer** – out of the roof space sooner: less fatigue, heat stress and ceiling damage

02 Inside the conduit



4C+E (dual string)
4 × 4 mm² red/black SDI DC cores with core numbers
+ 4 mm² earth
2C+E (single string) carries one pair + earth.
30 m and 60 m rolls.





03 Key data

Conduit	25 mm HD solar corrugated, UV stabilised, light grey, Australian made
DC cable	Tinned Cu, 1.5 kV DC, −40 to +90 °C, EN 50618 / IEC 62930
Earth	Tinned Cu, 0.6/1 kV, AS/NZS 5000.1
Bend radius	Min 4 × cable OD

04 Range

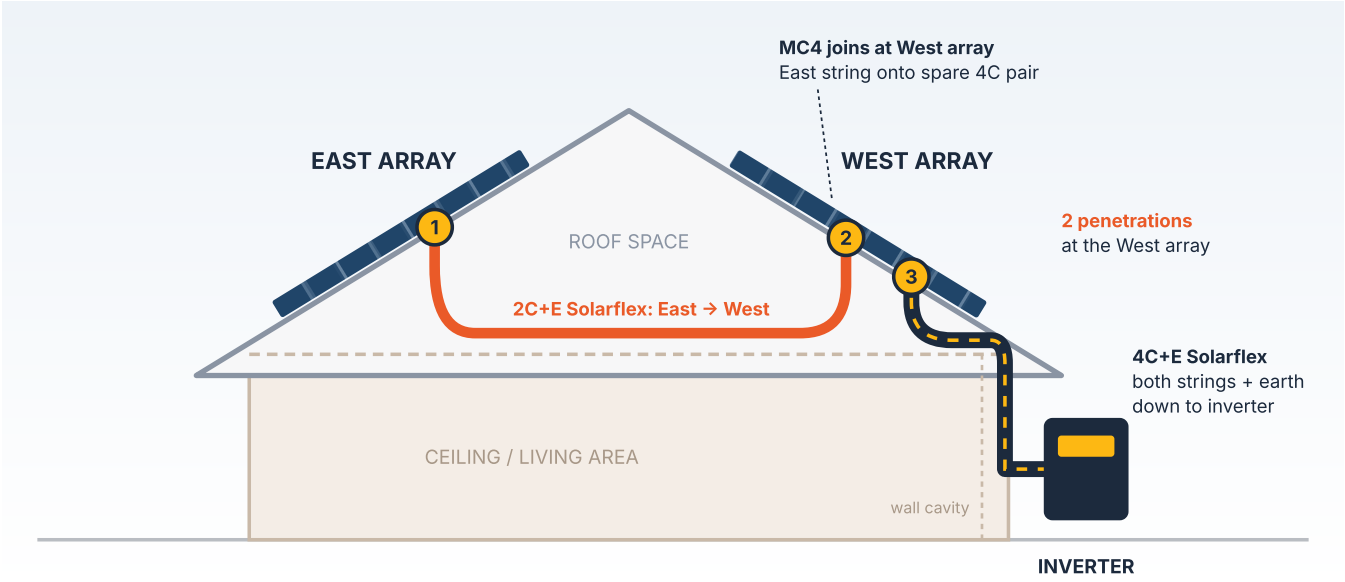
SKU	Description	Typical use in this guide
PV-SF2X4-30 / PV-SF2×4	25 mm Solarflex 2 × 4 mm² + E, 30 m / 60 m	Method A – array-to-array jumper
PV-SF4×4 / PV-SF4X4-60	25 mm Solarflex 4 × 4 mm² + E, 30 m / 60 m	Method A down-run · Method B main run
PV-SF2×6	25 mm Solarflex 2 × 6 mm² + E, 50 m	Single string, longer runs / voltage drop
PV-SF6×4	32 mm Solarflex 6 × 4 mm² + E, 30 m	Three-string systems
PV-SF25/50M-NW	Premium non-wired conduit 25 mm, 50 m	Method B second leg sleeve

BEFORE YOU START: plan the route first – the shortest run between arrays, roof space and inverter uses fewer metres and leaves longer, reusable offcuts. The best method is job specific.

METHOD A · MOST COMMON

East–West Run (“Loop and Down”)

2C+E from one array across to the other, then 4C+E from that array down to the inverter.



01 Steps

1. Start at the **East array**. Run **2C+E Solarflex** through a roof penetration (1) into the roof space.
2. Run it across the ceiling space and up through the roof sheet or tile (2) at the **West array**.
3. At the West array, take **4C+E Solarflex** — this combines both arrays.
4. Bring the 4C+E back through a penetration (3), across the roof space and **down the wall cavity** to the inverter.
5. Connect Array 1 and Array 2 on the roof with MC4s as normal. Check core numbers and polarity before terminating.



Roof penetration on a metal roof. Method A needs two at the West array.

+ Often less product and less work
+ Use 4C+E offcuts (remove 2 cores) as the 2C+E jumper
– One extra roof penetration (two at the West array)

02 What you need

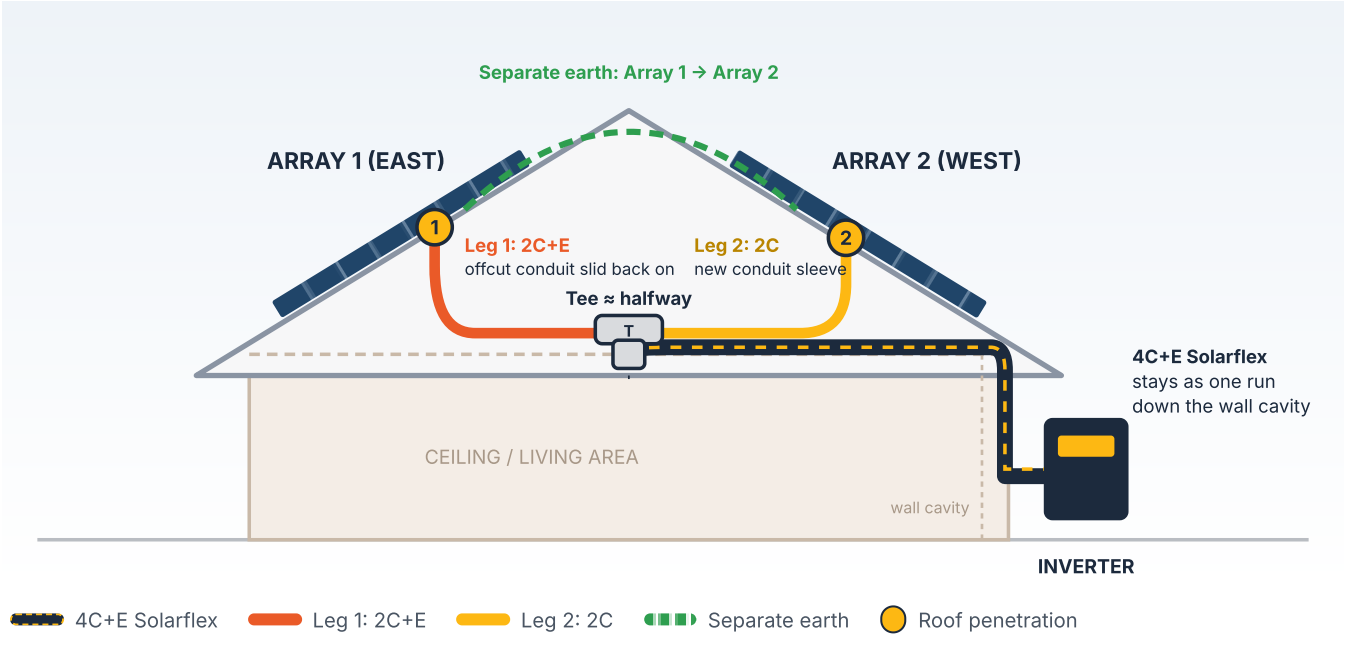
Item	Run	Notes
2C+E Solarflex (PV-SF2X4-30)	East array → West array	Or a 4C+E offcut with two cores removed
4C+E Solarflex (PV-SF4×4)	West array → inverter	Carries both strings + earth in one conduit
Roof penetrations ×3	1 East, 2 West	Seal to roof type
MC4 connectors	At the West array	Join East string to the spare 4C pair

Diagram is schematic – not to scale. Array names are examples; either array can be the “down” array.

METHOD B · JOB SPECIFIC

The T Method (“Split and Tee”)

One 4C+E run into the roof space, split at a tee into two 2-core legs — one to each array.



01 Steps

1. Run **4C+E Solarflex** from the inverter, up the wall cavity, to a point **about halfway** between the arrays, with enough excess to reach either array.
2. At the midpoint, **cut and strip the conduit** back off the cables for the distance to one array, exposing the bare cables — they must be long enough to reach either array.
3. Fit a **tee**. Take **2C+E** to Array 1 and **2C** to Array 2.
4. Run a **separate earth** from Array 1 through to Array 2.
5. **Slide conduit back over** each leg: the stripped offcut on the Array 1 leg (array to tee), a separate piece of conduit on the Array 2 leg.



Solarflex split at a tee in the roof space, one leg to each array.

\+ Can save product and roof penetrations (one per array)

\+ Still a single 4C+E down the wall cavity

\- A little more work in the roof space — easier on some jobs, not others

02 What you need

Item	Run	Notes
4C+E Solarflex (PV-SF4×4)	Inverter → midpoint, plus excess	Allow enough cable to reach either array
25 mm tee	Midpoint in roof space	Splits 4C+E into two legs
Conduit sleeve (PV-SF25/50M-NW or offcut)	Tee → Array 2	Slide over the 2C leg
Earth cable	Array 1 → Array 2	Separate earth between arrays

Diagram is schematic – not to scale. “T Method” is PV Connections’ internal name for this technique.

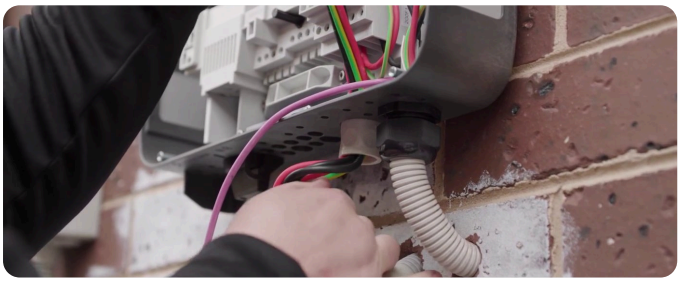
CHOOSING & FINISHING

Which Method, and Getting More From a Roll

Both methods work — choose per job. Then make offcuts part of the plan, not the scrap bin.

01 Method comparison

	A · East–West run ("Loop and Down")	B · T Method ("Split and Tee")
Product	2C+E (array to array) + 4C+E (array to inverter)	4C+E + separate earth + tee + conduit sleeve
Roof penetrations	3 (two at the down array)	2 (one per array)
Work in roof space	Less – straight runs	More – cut, strip, tee and re-sleeve
Down the wall	One 4C+E	One 4C+E
Worth considering when...	Arrays are close together or the down array sits near the inverter wall	Arrays are far apart, the inverter is central, or you want fewer penetrations





Left: Solarflex entering the inverter from the wall. Right: wall exit with conduit fittings.

02 Tips and tricks with offcuts

With a little training and initiative, offcuts save money and stay out of the scrap bin.

- **Plan your runs.** Spend some of the time saved by pre-wired on planning the most cost-effective route — shorter runs, longer offcuts.
- **Think in components.** Solarflex is three parts: solar corry, DC cables and earth. Use them separately — e.g. DC cables as a return loop, or the corry for a second array.
- **Measure and mark.** When offcuts come back to the factory, wrap with electrical tape and write the length on it, so you know if it suits the next job.
- **Offcuts first.** When packing the day's jobs, check the job plan against your labelled offcuts before reaching for a new roll. Always keep a new roll in the truck in case the job changes.
- **$ per metre.** Tell the team what Solarflex costs per metre and the value of any offcut binned. Kick it up a notch: a monthly free lunch paid for by offcuts used.
- **Method A bonus.** A 4C+E offcut with two cores removed makes the 2C+E jumper.

It's a change of mindset, but with a few tricks and some creativity you can almost eliminate offcut waste.

NOT COVERED: string sizing, voltage drop, DC isolation, labelling and roof-penetration sealing. Design and install to AS/NZS 5033, AS/NZS 3000 and the inverter and module manufacturers' instructions. Check core numbering and polarity at both ends before connecting.

Watch the walkthrough
"Solarflex: How To Install" – PV Connections, YouTube (Jul 2024)
youtube.com/watch?v=wCYGjmfXXio

Install with Confidence
pvconnections.com.au · 1300 818 419

Combined from: "Solarflex: How To Install" video (2024), Solarflex Install Guide and Solarflex data sheet.