



SOLAR PANELS

Solar wiring guide

This guide shows, for each NV station, which panels can be connected, in what quantity, in series or in parallel, and what power is actually achievable. The values are derived from the voltage windows and current limits of each station's MPPT controller.

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PANELS

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STATIONS

MC4

CONNECTOR

1 440 W

MAXIMUM POWER

THE NV PANEL RANGE



NV-S100

100 W foldable solar panel

Rated power	100 W
Open-circuit voltage	24.6 V
Ingress protection	IP65
Net weight	4,5 kg



NV-S240

240 W foldable solar panel

Rated power	240 W
Open-circuit voltage	24.6 V
Ingress protection	IP65
Net weight	8,5 kg

WIRING RULES

- 1 In series, voltages add up and current stays that of a single panel. That is the wiring to use across the whole NV range. Parallel (currents add up, voltage stays put) is only useful for pairing two NV-S100 panels on an NV-C24 or an NV-P36.
- 2 Total open-circuit voltage ($V_{oc} \times \text{number of panels in series}$) must never exceed the station's maximum input voltage.
- 3 Never mix panels of different ratings or references on the same string.
- 4 Connect the harness to the station before exposing the panel to the sun, and disconnect the panel before folding it.
- 5 Aim the panel with the sun-dial indicator: the light spot must fall in the centre of the circle. Re-aim every two to three hours.
- 6 Rated powers are measured under STC. In real use (dust, angle, temperature), expect about 75% of peak power.

WHICH PANEL ON WHICH STATION

STATION	INPUT	MPPT WINDOW	NV-S100	NV-S240
NV-C24	12-78 V	16-70 V · 13 A · 800 W	1 to 3 in series, or 2 in parallel 300 W	1 to 3 in series 720 W
NV-P36	12-80 V	11-31 V · 10 A / 31-80 V · 15 A · 800 W	1 to 3 in series, or 2 in parallel 300 W	1 to 3 in series 720 W
NV-W36	12-148 V	18-140 V · 15 A · 2 100 W	1 to 6 in series 600 W	1 to 6 in series 1 440 W
NV-W50	12-148 V	18-140 V · 15 A · 2 100 W	1 to 6 in series 600 W	1 to 6 in series 1 440 W

Power actually achievable. On the NV-W36 and NV-W50 the input is rated 2,100 W but limited to 15 A. With NV-range panels, the maximum configuration allowed by the manufacturer (six NV-S240 in series) delivers 1,440 W. That is the figure to use when sizing an installation.

On the NV-P36, connect panels in pairs. Its controller works in two bands: up to 31 V it is limited to 10 A, above that it rises to 15 A. A single NV-S240, working at 20.5 V, therefore stays in the low band and delivers only about 205 W instead of 240 W. From two panels in series onwards the high band applies and full power is recovered.

ACCESSORIES NOT SUPPLIED

ACCESSORY	USE
MC4 parallel connector	Wire two panel strings in parallel
3 m red and black MC4 extension	Move the panels away from the station
MC4-to-Anderson cable	Extension or replacement of the connection harness