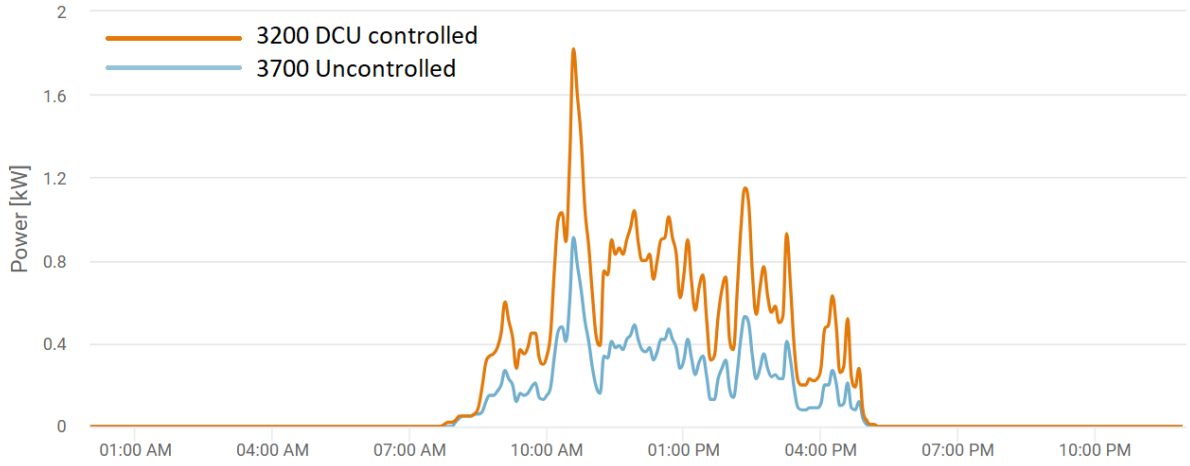
Comparison of Standard Configuration rated at 3700W, vs Partial DCU Controlled Array Rated at 3200W.

Specification

Lets compare the performance of a real world DCMax DCU controlled installation rated at **3200W** with a typical **3700W** installation.

Uncontrolled String	: 10x Jinko 370W panels	Total: 3700. Rated at 3700W
Controlled Array	: 3 strings of 8x Jinko 315W panels	Total: 7560W. Rated at 3200W

Low Production Day (Winter)



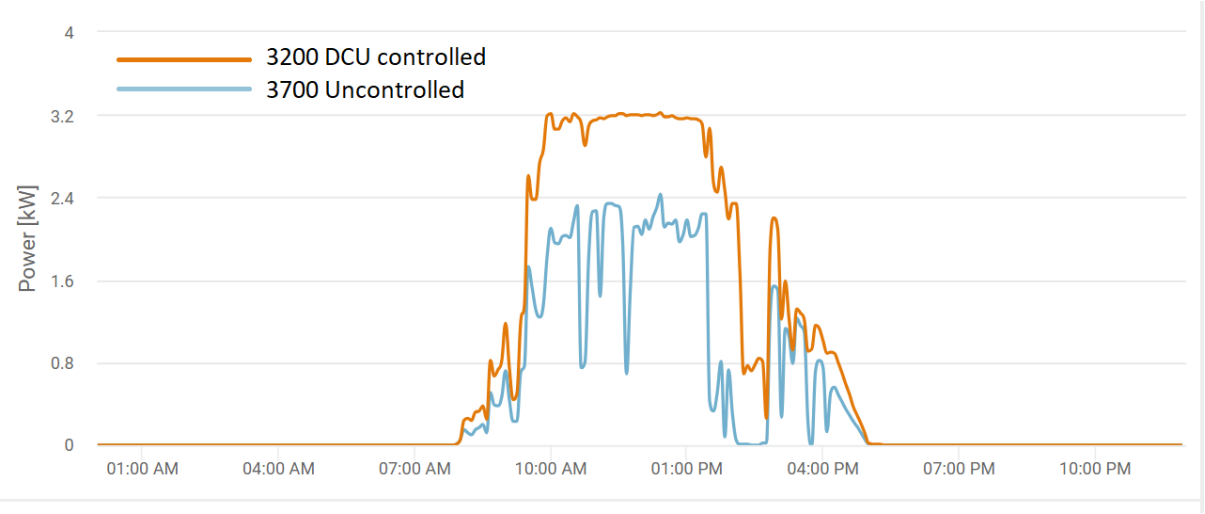
Unit	Total Production (W)	% of total System	% of (Summer) Max
3200 DCU Controlled	5310	15.8	7.9
3700 Uncontrolled	2397	12.0	12.3

Production Ratio: DCU controlled produced **2.21x more** power than uncontrolled

Note: The controlled system did not experience any limiting on this day (all available panels were producing power)

On low production days, the DCU controlled array despite being rated at **500W less** than the uncontrolled string, produced more than **double the power**. A DCU string rated at 3700W would have produced more than **2.5 times** that of the uncontrolled string. Because the inverter limit was never reached, all 24 of the available controlled panels were able to contribute ensuring production was limited only by the available roof space.

High Production Days (Winter)



Unit	Total Production (W)	% of total System	% of (Summer) Max
3200 DCU Controlled	17681	30.8	69.1
3700 Uncontrolled	9951	17.3	33.6

Production Ratio: DCU Controlled produced **1.7x more** power than the uncontrolled (limited by inverter)

Note: A DCU rated at 3700W would have produced just above 2x the power of an uncontrolled string.

Production was reduced between 1:30pm and 3pm by the inverter under negative pricing rule (feed-in price was negative).

On high production days, the performance limiting function is quickly reached. So, the total production has been kept at the maximum rating for the inverter for most of the day. Important things to note are:

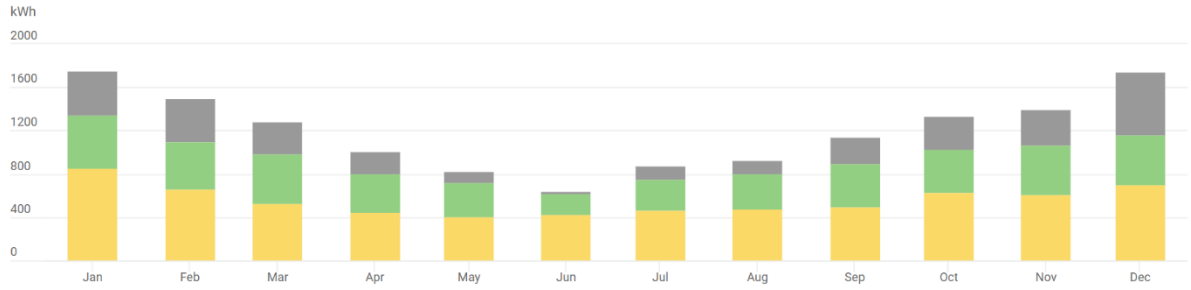
- **Production is stable:** No wild fluctuations compared with the uncontrolled string
- **production efficiency is greatly increased:** Winter production on the controlled string is near 70% of the max summer-time production compared with only 33% for the uncontrolled string

Summary

Safety regulations limit the amount of production by limiting the size of the inverter. By installing a Partial DCU system like the DCMax, you can safely double your production, reduced winter time power bills and have a much greater return on investment.

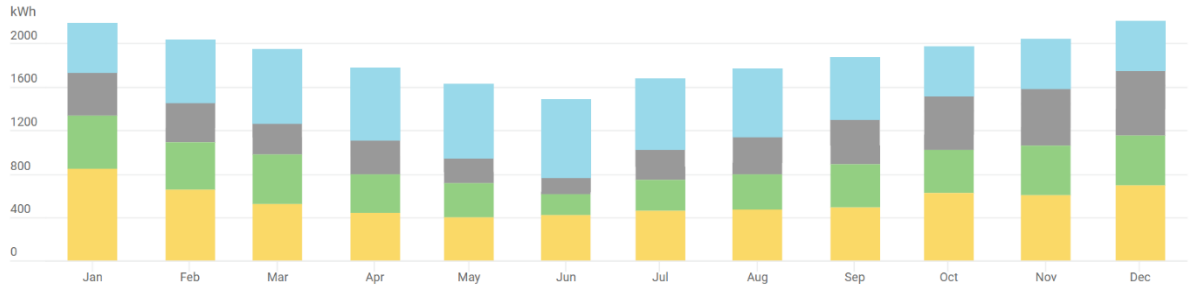
The comparison shown here demonstrates that winter production on a DCU controlled string is at least double that amount of power than an equivalent standard installation simply because there are more panels available to produce the power needed. There are fewer daylight hours in winter, so it is simple to see that production will always be less than summer-time.

Production Through the Year (Typical Installation)



But the DCMax will boost winter production to close to summer-time levels, virtually eliminating the winter-time slump.

Projected Production Through the Year with DCMax



With the added advantages of shading resilience and supporting different roof orientations at the same time, the DCMax will provide more reliable, higher production for longer each day and greater long-term returns than typical solar installations.