

## NX Gemini

NX Gemini Smart Combiner

## String-Powered Tracker Operation

NX Gemini<sup>™</sup> two-in-portrait Smart Solar Tracker uses the patented smart combiner to power the tracker directly from the solar plant's modules. Compared with using a dedicated solar module for tracker power, this system reduces cost and increases site density. The smart combiner also enables asset owners to monitor performance at the string level to alert plant managers in real-time when an individual string is not performing as expected. Combining four DC strings into two reduces DC wiring runs, and it is compatible with DC systems up to 1,500V, including 1,000V systems. Finally, the smart combiner also integrates into the Nextracker ecosystem of tracker controller, NX Navigator<sup>™</sup>, and TrueCapture<sup>™</sup> software platforms.





## Smart Combiner Operation

The smart combiner performs three functions in a small package mounted on the tracker. First, it accepts input from four solar module strings (up to 1,500 $V_{DC}$  and 20A per string) and combines them in parallel into two DC outputs (up to 40A per output), without DC conditioning. Second, it measures current on all four strings to monitor for fault detection. Lastly, it powers the tracker controller through a separate output where DC voltage is stepped down to  $48V_{DC}$ ; a single cable connects the smart combiner to the tracker controller, providing power and data communication. The tracker controller communicates via ZigBee wireless to the Network Control Unit, and data is managed through NX Navigator software. The smart combiner consumes 113 Wh per day.

## SPECIFICATIONS

High-Voltage Input	Number of DC inputs	Up to 4 strings
	DC Voltage	500V – 1,500V
	Current, Max Rated	20A per input circuit
	Connection Type	MC4-EVO2
High-Voltage Output	Number of DC outputs	1 or 2
	DC Voltage	500V – 1,500V
	Current, Max Rated	40A per output circuit
	Connection Type	MC4-EVO2
Low-Voltage Output	Connection	Single cable to tracker controller for power and communication
	DC Voltage	48V <sub>DC</sub> ±2%
	Max. Power	500W
	Power consumption	113 Wh/day, typical
Mechanical	Length x Width x Height	17.75" x 8" x 2"
	Weight	9.9 lbs
Environmental	Enclosure	Туре 4Х, IP65
	Temperature, Operation	-30°C - 55°C
	Temperature, Storage	0°C – 40°C
	Relative Humidity	0 - 95%
General	Safety	UL1741, IEC 62109-1:2010
	EMI	FCC, CE







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