

## DIFFUSE BOOSTER

On very cloudy weather, direct irradiance from the sun could be so minimal that normal monitoring methods are no longer the best way to optimize production.

The Algorithm detect those periods displaying a greater irradiance on the horizontal plane (from diffuse irradiance) than on the tracking plane (from direct irradiance) and move trackers to 0°(Diffuse Booster mode).

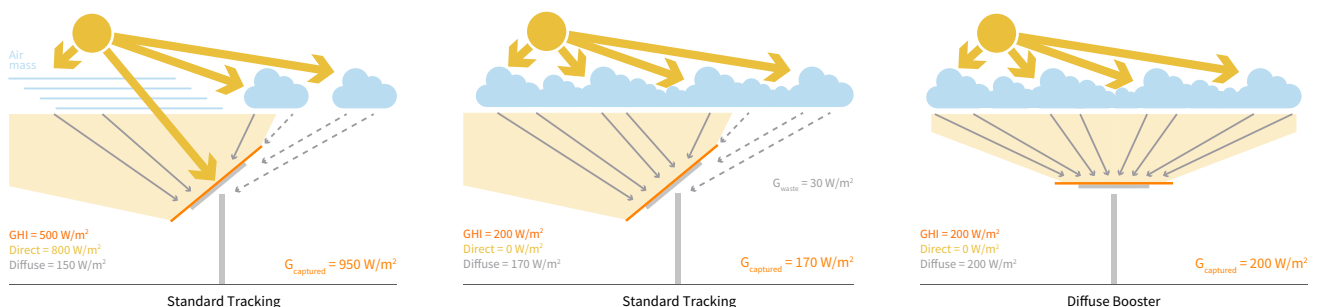
Sensors will be used to read the irradiance in both the tracking and horizontal planes. Diffuse Mode is automatically triggered when the horizontal irradiance exceeds the tracker-plane irradiance for a configurable period. This intelligent logic avoids unnecessary movements, extends battery life, and maximizes energy capture under diffuse conditions.

### MEASUREMENTS

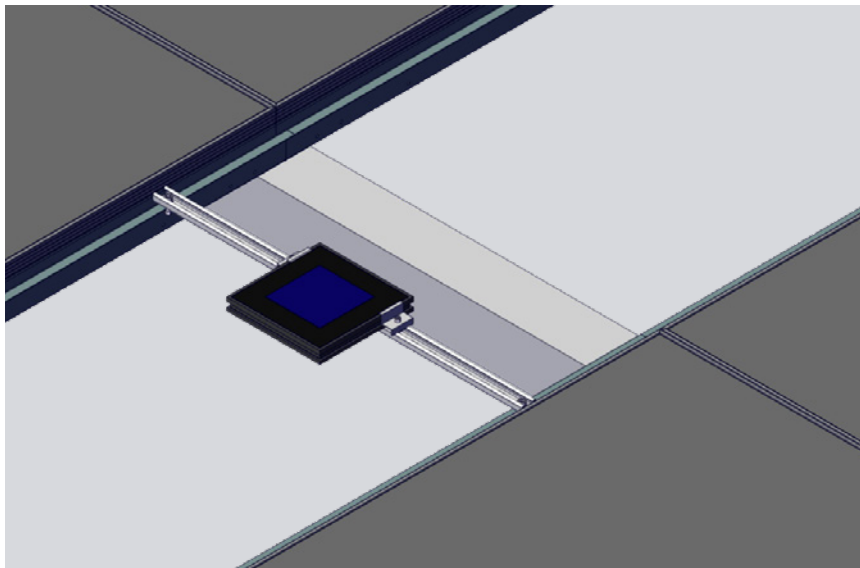
Calibrated cells will be used as irradiance sensors due to their similar spectral response to modules.

A centralized set of irradiance sensors will be installed across the plant to enable a coordinated, plant-wide activation of Diffuse Mode. This approach avoids false triggers caused by short-duration cloud transients and ensures stable operation under variable atmospheric conditions.

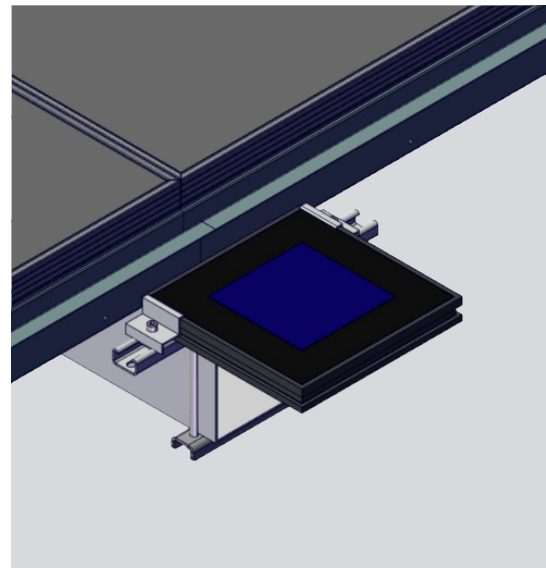
Trackers with calibrated cells installed will always perform normal operation, even if Diffuse Booster mode conditions are met. If they go to 0°, the radiation measurements on the tracking plane will be lost.



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**a)** Cell installation on Slewing Drive gap.  
(Default installation)



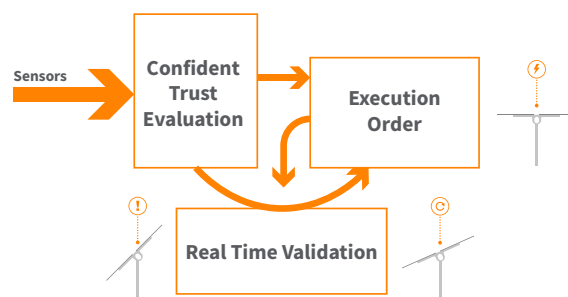
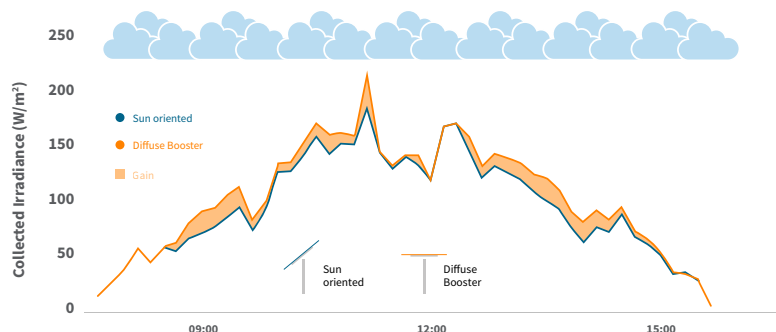
**b)** Cell installation on Torque Tube end.  
(If gap not suitable or inexistent)

## OPTIMIZED DIFFUSE OPERATION

This approach is designed to:

- Accurately identify stable diffuse conditions, avoiding broken cloud detection
- Maximize diffuse irradiance capture during cloudy periods, optimizing energy yield when direct irradiance is limited
- Prevent unnecessary tracker movements that can lead to production losses
- Reduce mechanical actuation, minimizing wear and operational stress
- Preserve battery autonomy, especially during extended low-irradiance conditions

By maintaining stable tracker positioning under diffuse-dominated conditions, the system enhances energy capture efficiency on cloudy days while ensuring smooth and reliable plant operation.



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