

Drop N GO Stacking



V97 April 2011

1 Day installation with Pre-Cast concrete ballast
Minimum Site Prep
Lowest Life-Cycle-Cost of any tracker



Up to
3.8kW
per tower

Seasonal
Adjustable
Acquires >95%
of dual axis with
Lower cost
Lower power
(no 120v AC)

Less maintenance

LOWER Life-Cycle Cost



PS 8,10,12,15,16 or 18 panel Strongback
7-8.5ft above grade



SunpointGPS Tracker Retrofit
1.5ft tall self-aware self-powered
(optional - can be added anytime)



5 ft Galvanized post (6.5ft for without SunpointGPS)



Base Mount
Galvanized



Ballast 1..2- 1.65ft high
above grade



Built-in
Conduit



Mounts 15x
180-240w
PV panel
any make

Up to 18
<180w panels

Drop N GO Stacking Height Select

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		Array Panel/Orientation	10 Panel 5x2 Portrait	12 Panel 6x2 Portrait	15 Panel 5x3 Portrait	16 Panel 4x4 Landscape	18 Panel 6x3 Portrait		
		IN-GROUND PEDESTAL	PS2000P	PS2400P	PS3000P	PS3200L	PS3600		
		Post Length	12' (3.66m)	12' (3.66m)	15' (4.6m)	15' (4.6m)	15' (4.6m)		
		Array Angle	A	55° Tilt From Horizontal				45° Tilt	
		Top Of Pole Above Grade	C	8ft (2.44m)	8ft (2.44m)	8ft (2.44m)	8ft (2.44m)	8ft (2.44m)	
		Ground Clearance	D	49.6" (1.26m)	49.6" (1.26m)	25.5" (.66m)	29.9" (.76m)	25.5" (.66m)	
In-ground Concrete		Local Design only							
		DropNGo	PS2000	PS2400	PS3000	PS3200	PS3600		
		Post Length	5Ft	5Ft	6.5ft	6.5ft	5Ft		
		Array Angle	A	45° Tilt From Horizontal				45° Tilt	
		Array Center	Above Ballast	B	5' (1.52m)	5' (1.52m)	6.5' (2m)	6.5' (2m)	7.23' (2.21m)
			Above Grade	C	6.4' (1.95m)	6.4' (1.95m)	8.3' (2.53m)	8.3' (2.53m)	8.9' (2.7m)
		Panel Ground Clearance	D	36.9" (.94m)	37.6" (.96m)	37.4" (.95m)	50.4" (1.28m)	40.84'(1.04m)	
8.6ft Diameter Ballast		1.2ft thick	~10,780lbs	1.67ft thick	~14,450lbs	2ft thick ~17,400lbs			
		DropNGo with SunpointGPS	PS2000	PS2400	PS3000	PS3200	PS3600		
		Post Length	5Ft	5Ft	5Ft	5Ft	5Ft		
		Array Angle	A	45° Tilt From Horizontal				45° Tilt	
		Array Center	Above Ballast	B	5' (1.52m)	5' (1.52m)	5' (1.52m)	5' (1.52m)	7.6' (2.3m)
			Above Grade	C	7.8' (2.38m)	7.8' (2.38m)	8.2' (2.5m)	8.2' (2.5m)	9.6' (2.9m)
		Panel Ground Clearance	D	53.4" (1.36m)	53.4" (1.36m)	35.9" (.91m)	48.9" (1.24m)	47.8'(1.2m)	
8.6ft Diameter Ballast		1.2ft thick	~10,780lbs	1.67ft thick	~14,450lbs	2ft thick ~17,400lbs			

SunpointGPS Alignment



- SunpointGPS is self-powered, self-contained and self-aware. It uses its own small solar panel and charging system to keep a 12v AGM sealed battery charged. When full this battery contains about 2-3days of operation and after a further number of cloudy days it may be more than half depleted. Extreme cold weather below -20deg C you can expect less energy delivered. If this happens it simply commands the array to face south and waits for the sun to recharge. Extreme winter operations may justify adding a 12v wall adapter plug-in to augment the limited battery performance.

Each day, the SunpointGPS controller moves the array in several discrete "steps" from sunrise to sunset and when not actually moving it goes to sleep (powers down) and waits. This method means the unit uses less than 40/1000ths of a kWhr/day of it's own power to operate. It spends more than 97% of it's life asleep in a "powered down" mode. When the power is turned on initially it determines it's position and time from an internal GPS receiver. It then moves in azimuth just ahead of the sun and waits for the sun to go by, sleeping while it waits. Then, at the end of the day, it will go to the south and sleep. Just before sunrise it will check battery condition then move to EAST Reference Point, re-calibrates and begin tracking at sunrise. The 2 lower emergency limit switches will stop all motion should the motor somehow ignore software commands. You can restart the program at any time to recalibrate it's position. Simply remove the fuse on the POS battery terminal wire, wait a few seconds and reconnect. NOTE: Make sure the solar panel and plug in power is also disconnected first or the solar panel power will not allow the controller to power down and RESET. The system will restart, recalibrate it's location and pointing angles and then move to the current sun position.

NOTE

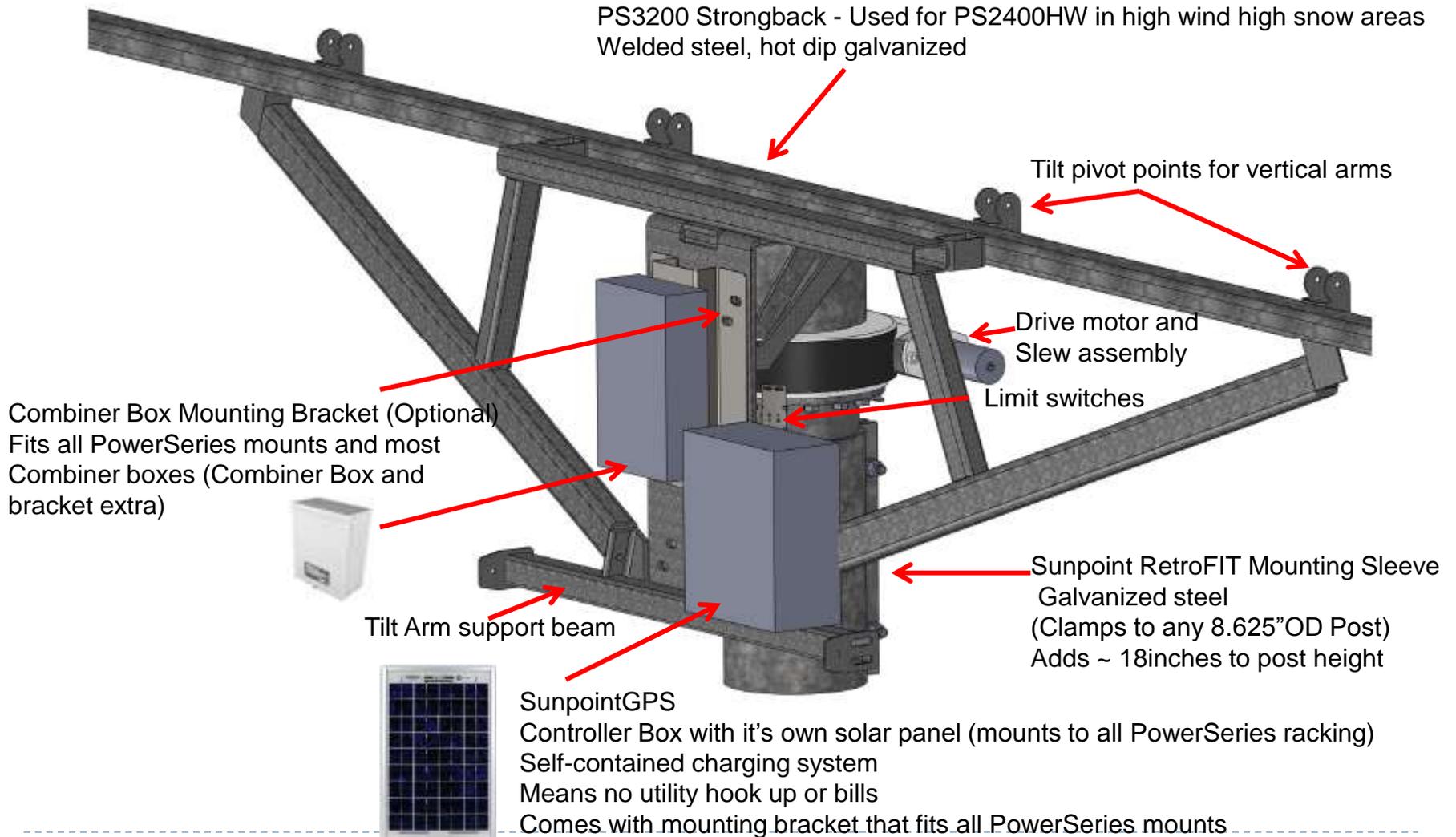
It is important to initially orient the SunpointGPS tracker facing GRID SOUTH. Pick any two opposite bolts on the mounting flange and then precisely align GRID south as shown on the right. Current base mounts and posts have ~5deg alignment slot in the concrete bolt pattern.

Annual inspection simply check of the condition of the system to ensure nothing is loose and includes a grease check of the slew drive.

Precise Probe Alignment
GRID South not necessary with
adjustable North Probe



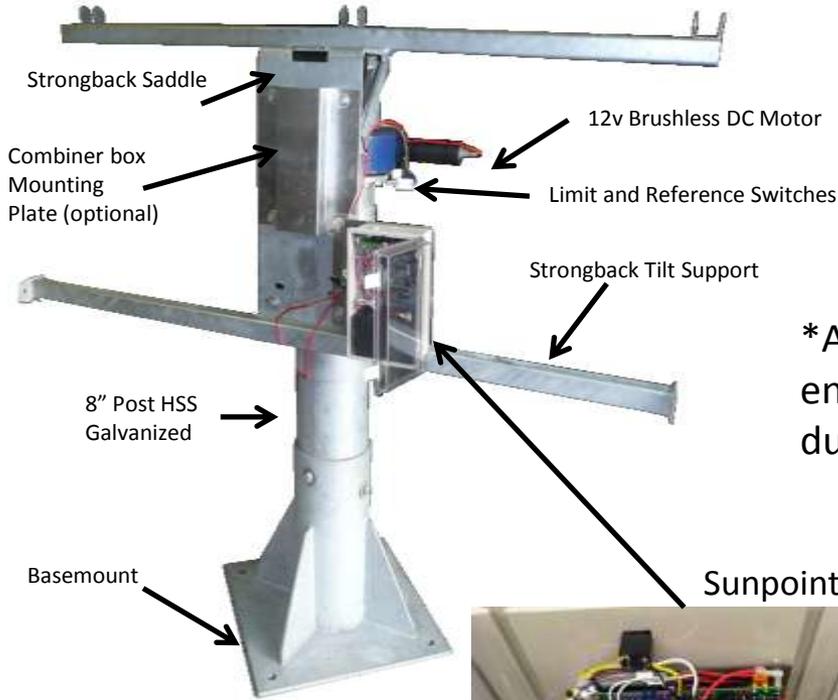
SunpointGPS Assembly



Sunpoint_{GPS} Tracker

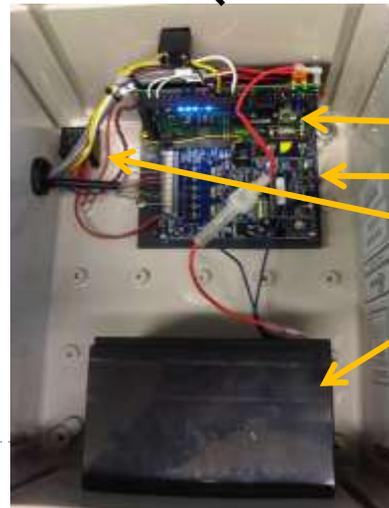


Add Tracker to any existing system



*Azimuth trackers produce more energy than dual-axis trackers due to lower life cycle cost.

RetroFIT Mount



Sunpoint2GPS Controller

- SunpointGPS Controller board
- Motor Controller board
- Drive Motor Power Relay
- 12AH AGM Battery 12v