Utilitas Trac

Harden Solar Tracking Solution

MADE IN USA

Sustainable Energy Management Systems LLC (SEMS) is an American manufacturer of cost effective closed-form (tubular) solar racking structures. SEMS kitted racking solutions deliver superior quality, mitigate risks, and lower overall long term operating and maintenance costs, thus delivering a more bankable levelized cost of energy.

Features and Benefits

Flexibility & Optimal Panel Density

- Modular design and distributed drives allow for flexibility in row and site design to achieve optimal power density for irregular shaped sites.
- Self-aligning racks allows up to 10° grade along row axis making it ideal for challenging terrain.
- Optimized flexibility in site design, construction, & maintenance of even the most irregular shaped sites with 2 models available.
- Maximum ground coverage, maximum energy yield and performance under real world conditions

Strength & Resiliency

- Constructed of closed form (tubular) 2'x4' aluminum and galvanized steel to minimizes the effects of extreme bending and twisting.
- Shock mounting technology of critical joints prevents deformation during critical wind events.
- One Distributed drive actuates for up to 4 sections of racking minimizes amplitude of oscillation and galloping.
- Dual Clamp provides twice the clamping force around closed form (tubular) aluminum providing maximum strength and vibration resistance.

Reduced Operation & Maintenance Cost

- Maintenance vehicles can drive through the array freely because of distributed AC linear actuators instead of link drive architecture.
- AC linear actuator eliminates the need for additional solar panels and batteries avoiding replacement plans.
- Operator Maintenance training programs are available and avoids service contracts.
- Decentralized control box controls up to ten distributed AC linear actuators reducing the risk of significant energy loss if a fault or damage occurs.

Maximizes Performance & Energy Yield

- Decentralized control box operates up to ten AC linear actuators connected to a total of forty racking sections.
- High energy yield achieved with two different models with optimal tracking range that accommodates monofacial and bifacial panels.
- Designed for the optimal tracking range, energy production, reliability, and strength.
- Optimum tracking accuracy of +/-2° with one real-time tracking sensor per decentralized control box

Lifetime Quality & Value

- Offers quality and reliability while mitigating risks with its 30 plus year life expectancy.
- Industry-leading warranty of 15 years on structure, drive, and controls, that is extendable to 20-years.

Streamlined Installation

- Kitted closed-form (tubular) solution requiring no 3rd party sourcing of components or fabrication on site.
- No special equipment or extra steps required to square racking and only basic tools are required for assembly.

Reports were published in 2018 by the U.S Department of Energy Federal Energy Management (FEMP) and Federal Emergency Management Agency (FEMA) about damage and recommendations to prevent damage due to severe weather. Our Engineers realized that our field-proven products and technology addressed those recommendations and began applying our proven technology to develop advanced solar racking and solar tracking solutions for not just the residential, but now also for the commercial and utility scale solar industry.

Product Data

Material		
	Utilitas 4.0	Utilitas 8.0
Racking Main Rails	Alloy 6005A-Series Aluminum	
Racking Side Rails	Alloy 6005A-Series Aluminum	
Pile/Pole	Galv. Structural Rect. Tube	
Assembly Hardware	Zinc Grade 5 with Wedge-Lock Washers	
Mechanical		
Slope Tolerance	10°	
Wind Speed	120 Mph	
Foundation Type	Concrete or Driven	
Typical Row Length	160 modules, depending on string length and site requirements	320 modules, depending on string length and site requirements
Row Orientation	South- North	
Minimum Row Spacing	18' on centers	24' on centers
Module		
Modules per Section	4	8
Module Type *Note 1*	60 cell,72 Cell or Bifacial	
Module Mounting Type	Dual Clamp	
Module Orientation	Portrait	Portrait
Tracking		
Tracking Type	Horizontal Single-Axis	
Tracking Range of Motion	+/- 50°	+/-35°
Tracking Method	Real Time Sensor	
Drive Type	Distributed Linear Actuator	
Motor Type	240 volt AC	
Drives per Control Box	10	
Design		
Life Expectancy	30-years	
Warranty*Note 2*	15-year (extendable)	

Quantity of Components per Tracker		
Component Description	Utilitas 4.0	Utilitas 8.0
14'2" Table/Rack Main Rails Alloy 6005A-Series Aluminum	8	8
5' Table/Rack Side Rails Alloy 6005A-Series Aluminum	8	N/A
10'6" Table/Rack Side Rails Alloy 6005A-Series Aluminum	N/A	8
13'10" Table/Rack Mid-Rails Alloy 6005A-Series Aluminum	N/A	8
Table/Rack Assembly Hardware Kit	1	1
8' Pole/Pile (Standard)*Note 3* 2"X4" 3/16 Wall Galv. Structural Rect. Tube	Note 4	Note 4
Linear Actuator	Note 5	Note 5
Linear Actuator Mounting Hardware Kit	1	1
Dual Clamps/with Hardware	40	80
Decentralized Tracking Control Box	*Note 6*	*Note 6*

NOTES:

- Note 1: Uilitias Trac Series models support most commercially available 60 or 72 Cell and Bifacial solar modules.
- Note 2: 15-year Limited Workmanship warranty is valid only when installed by a certified installer and installed in accordance with the product installation manual. Improper installation will void all warranty claims. 20-year Product warranty is available if installed by a SEMS Affiliate Partner or the installation professional has completed one of our installation training programs.
- Note 3: 8-foot poles/piles are standard if a longer length is required this must be specified at time of order.
- Note 4: Quantity of poles/piles are project specific and the required quantity will need to be specified at time of order.
- Note 5: One Linear Actuator control a minimum of 2 sections of racking and up to 4.
- Note 6: One decentralized control box per 10 distributed AC Linear Actuators. Maximum of 240 modules per row by connecting decoupled trackers end to end