# Why Thomson Actuators?

For over 40 years, the dedicated engineers at Thomson have worked hard to design our actuators to provide performance in some of the most demanding applications - vibration, shock, heat, cold, salt spray.

### The largest linear actuator range in the market

In addition to our extensive application and engineering expertise, Thomson also has the largest unmatched range of standard and custom electrical linear actuators in the market today. For this reason, we are able to provide positioning solutions for a vast array of unique applications for dynamic loads up to 9000 N (2000 lbf). Thomson understands the critical needs of the clean energy industry and works diligently to provide the most cost-effective solution available. Our success is driven by:

- decades of application and engineering expertise
- robust and reliable products that withstand the harshest environments
- an extensive standard and modified product range
- custom designs for unique applications.

### Rugged and reliable

Thomson electro-mechanical linear actuators are rugged and reliable, withstanding harsh environments to:

- make manual jobs easier - reduce operator fatigue
- automate tasks - improve efficiency and reduce costs
- provide remote control - increase production
- remove operators from dangerous places - improve safety.






### Changing technologies

Manufacturers are taking a long, hard look at the way they use motion control systems in their equipment. Once dominated by pneumatic and hydraulic systems, equipment is now increasingly designed with electric actuators for automation of a large number of tasks. Electric linear actuators are easier to control, integrate with modern computer based control systems and are smaller, lighter and cleaner than hydraulic systems - all attributes that brighten a company's bottom line. In fact, electric linear actuators eliminate:

- the need for hydraulic pumps, valves and hoses
- the cost and bulk associated with hydraulic systems
- environmentally hazardous oil and risk of leakage
- the high energy consumption of hydraulic systems
- costly hydraulic reliability issues (contamination)
- the cost and hassle associated with fluid maintenance.

### Customization

Thomson is the industry leader in custom actuator design. Our design flexibility and unique customization expertise give us an advantage to quickly provide our customers a cost-effective design that meets their exact requirements.

### Do you need even stronger, longer and faster actuators?

If the performance of the Electrak range isn't enough for your application you may want to look at Thomson's Precision Linear Actuator range. These top off the line actuators can be supplied with DC, three phase, stepper or AC servo motors in a multitude of configurations. They can handle loads up to 38 000 N (8500 lbf.), move as fast as 2 m/s (78 inch/sec) and have a repeatability down to ± 0.013 mm (± 0.0005 inch). For more information, please contact customer service.





**USA, Canada and Mexico**
Danaher Motion Assistance Center
203A West Rock Road
Radford, VA 24141 USA
Phone: 1-540-633-3400
Fax: 1-540-639-4162
E-mail: DMAC@danahermotion.com
Literature: LitRequest@danahermotion.com

**France**
Danaher Motion
C.P 80018
12, Rue Antoine Becquerel – Z.I. Sud
72026 Le Mans Cedex 2
France
Phone: +33 (0) 243 50 03 30
Fax: +33 (0) 243 50 03 39
E-mail: sales.france@danahermotion.com

**Germany**
Danaher Linear GmbH
Nuertinger Strasse 70
72649 Wolfschlugen
Germany
Phone: +49 (0) 7022 504 100
Fax: +49 (0) 7022 504 405
E-Mail: sales.wolfschlugen@danahermotion.com

**Italy**
Danaher Motion srl
Largo Brughetti
20030 Bovisio Masciago
Italy
Phone: +39 0362 594260
Fax: +39 0362 594263
E-mail: info@danahermotion.it

**Spain**
Danaher Motion
Rbla Badal, 29-31 7th, 1st
08014 Barcelona
Spain
Phone: +34 (0) 9329 80278
Fax: +34 (0) 9329 80278
E-mail: josep.estaran@danahermotion.com

**Sweden**
Danaher Motion
Box 9053
291 09 Kristianstad
Sweden
Phone: +46 (0) 44-24 67 00
Fax: +46 (0) 44-24 40 85
E-mail: s ales.scandinavia@danahermotion.com

**Switzerland**
Danaher Motion SA
La Pierreire 2
1029 Villars-Ste-Croix
Switzerland
Phone: +41 (0) 21 631 33 33
Fax: +41 (0) 21 636 05 09
E-mail: info@danaher-motion.ch

**United Kingdom**
Danaher Motion
Chartmoor Road, Chartwell Business Park
Leighton Buzzard, Bedfordshire
LU7 4WG; United Kingdom
Phone: +44 (0)1525 243 243
Fax: +44 (0)1525 243 244
E-mail: sales.uk@danahermotion.com

**Asia Pacific**
Danaher Motion (HK) Ltd
Unit A, 16 Floor, 169 Electric Road
Manulife Tower, North Point
Hong Kong
Phone: +852 2503 6581
Fax: +852 2571 8585
E-mail: victor.lim@danahermotion.com

**China**
Danaher Motion
Rm 2205, Scitech Tower
22 Jianguomen Wai Street
Beijing, China, 100004
Phone: +86 10 6515 0260
Fax: +86 10 6515 0263
E-mail: chinainfo@danahermotion.com.cn

**India**
Danaher Motion (HK) Ltd
Unit No. 2, SDF 1 SeepzAnderi
Mumbai 400 096
India
Phone: +91 22 28294058
Fax: +91 22 28394036
E-mail: girish.mahajani@danahermotion.com

**Japan**
Danaher Motion Japan
2F, Tokyu Reit Hatchobori Bldg,
2-7-1 Hatchobori Chuo-ku,
Tokyo 104-0032 Japan
Phone: +81-3-6222-1051
Fax: +81-3-6222-1055
E-mail: info@danahermotion.co.jp

THOMSON™

200806-01


DANAHER MOTION
*Helping you build a better machine, **faster.***

# Clean Energy Alternatives - Linear Actuators

THOMSON™

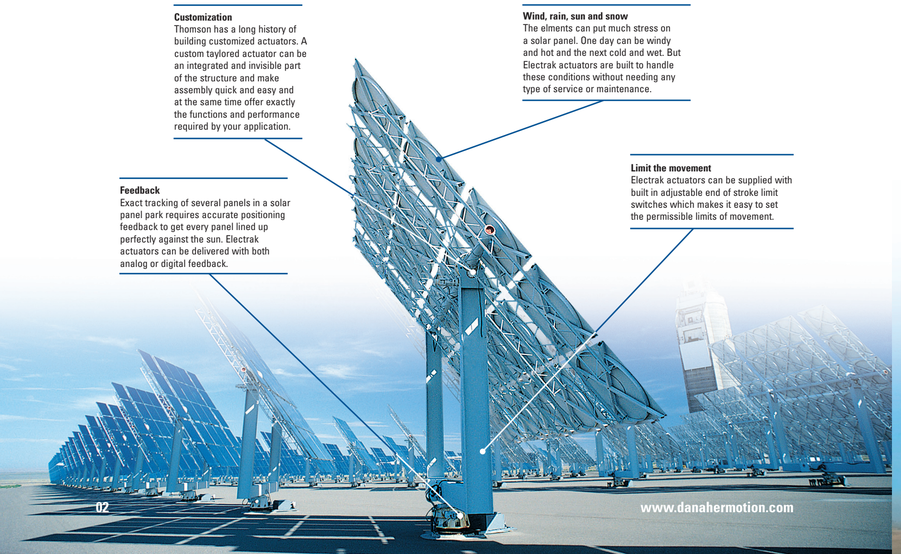
# Solar Energy

Solar panels are probably one of, if not the cleanest ways to produce electricity. They come in many varities, from very small to quite big, and often are in large parks where hundred of panels harvest the energy from the sun. Some of the harder challenges with solar panels comes from making the panels large, lightweight and maneuverable yet able to withstand rain, wind or even snow.

### Solar panel tracking

Fixing a solar panel to a roof or pole is the simplest way to mount the panel but is not the perfect solution as the panel almost never will have the ultimate position with the sun. The solution is to track the sun which provides up to 30 % more output from the same number of panels but requires some unique actuator characteristics.

- Solar tracking requires actuators with high stiffness and no backdriving. Wind loading can exert high forces on the panels and actuators. Electrak's unique holding brake design eliminates back driving in high wind conditions.
- Accurate tracking often requires some form of feedback. Electrak actuators are available with either encoders or potentiometers to meet either analog or digital feed-back requirements of the control.
- End of stroke limit switches protect the panel from overtravel in either direction and possible damage. Electrak actuators are available with adjustable end of stroke limit switches.
- Panels can require up to 9000 N (2000 lbf.) of force to move in windy conditions and Electrak actuators can deliver with ease.
- Some trackers require clevis mounting and others need trunnion mounting. Electrak actuators are available in either version.
- Solar panels are low maintenance. Electrak actuators are no maintenance.






# Wind Energy

Wind energy is a clean and quite simple way of power production. But the best wind conditions are often found in locations that are remote or hard to reach. It can be at sea or in the middle of a large field with poor or no road access. This makes it important to keep service and maintenance of the wind mills to a minimum.

### Hood lifting and parking brakes

To be able to replace large components in the turbine house, wind mills often have top hatches that are too heavy to operate manually. The turbine house also needs to have some kind of parking brake so that it stays in position for service or when the wind conditions force the mill to stop. Electrak actuators are the ideal solution in both cases.

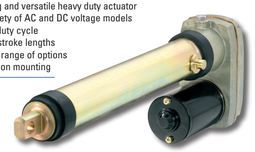
- Electrak actuators are clean compared to hydraulic alternatives. They do not require any plumbing and there is no risk of oil leakage.
- To run an Electrak actuator is not difficult or expensive, a simple switch and some wires is all it takes. No need for hydraulic pumps, oil resevoirs, valves or pipes.
- It is easy to set the excact positions where the in or out movement of the actuator should stop as Electrak actuator are available with adjustable or programmable end of stroke limit switches.
- Electrak actuators require no maintenance and are easy to mount and dismount. A number of mounting options are available to make it even easier.




# Product Overview

Shown is a selection of Electrak standard actuators well suited for work in solar panels and wind mills plus the Electrak CEA actuator which is designed especially for solar panel applications. The table shows the large performance span that this wide selection can offer.

**Electrak PPA**
- Strong and versatile heavy duty actuator
- A variety of AC and DC voltage models
- High duty cycle
- Long stroke lengths
- Large range of options
- Trunnion mounting



**Electrak 10**
- Robust, strong and reliable
- Withstands very harsh environments
- Stainless steel extension tube
- Acme or ball screw models
- A variety of DC voltage models
- Clevis mounting

**Electrak LA24**
- Robust, strong and reliable
- Withstands very harsh environments
- Aluminium cover tube
- Acme or ball screw models
- A variety of AC voltage models
- Trunnion or clevis mounting

**Electrak Pro**
- The next generation in actuator design
- Designed for the harshest applications
- Electronic load monitoring (ELM)
- Small size with minimal retracted length
- Acme or ball screw models
- IP66 protection as standard
- Manual override as standard
- Wide range of options
- Clevis mounting

**Electrak CEA10**
- Specially designed for solar panel applications
- Capable of high loads and long strokes
- Withstands very harsh environments
- Encoder or potentiometer feedback
- Optional limit switches
- Tube mounting

| | |
|---|---|
| Supply voltages | 12, 24, 36 Vdc and 115, 230, 400 Vac |
| Speed range | 0,1 - 50 mm/s (0.004 - 2 inch/sec) |
| Dynamic load, maximum | 9000 N (2000 lbf.) |
| Static load, maximum | 18 000 N (4000 lbf.) |
| Stroke lenght, maximum | 914 mm (36 inch) |
| Protection degree, maximum | IP 67 |
| Feedback options | potentiometer or encoder |
| Limit switch options | external or internal adjustable / internal programmable |
| Mounting | clevis, tube mounting or trunnion |
| Life | designed for 20 years, based on 1 cycle/day |
| Warranty | up to 3 years |