



NEWS RELEASE

Media Contact: Bruce Besch
Advanced Motion Products Manager, Parker Cylinder Division
Office: (612) 865 7967
Email: bbesch@parker.com

**Parker Cylinder Division launches “Smart sensing Hybrid Solar Actuation Systems”
featuring multiple options for integrating wireless condition and position monitoring sensors**
Hybrid design brings “best of both worlds” electromechanical and hydraulic design in a single system

[Live Demo Display at Solar Power International 2017, Parker Booth #1545](#)

September 1, 2017 – Las Vegas, NV – Parker Hannifin Corporation, the global leader in motion and control technology, is bringing *hybrid* “smart actuation systems” to the solar power actuation application featuring optional sensors, for “absolute position” and “universal tilt” monitoring as well as cloud-based sensors for condition and diagnostics monitoring of the solar panel.

Parker's Cylinder division's hybrid design in solar linear actuation optimizes the best features of traditional technologies, combining controllability of electromechanical actuators with the power density, longer life, and resistive force capabilities of traditional hydraulic systems. The resulting hybrid offers a robust, long-life tracking solutions for solar power, and actuation systems for wind and hydro and other renewable energy systems as well as fossil fuel applications.

Parker's Hybrid Actuation System (HAS) offer low cost, ease of maintenance and durable choice for large and small arrays. Hybrid hydraulics achieve exceptional economies of scale, with the ability to move over a megawatt from a single point. This high efficiency, modular system allows for various traditional cylinder mounting configurations and stroke lengths, and the hybrid design is a fully self-contained system, with no hydraulic hoses or power units. Also, serviceability is built into the design, in that the system can be serviced on site, with simple line of use replacement allowing for quick change out in the field. The system features two wire operation, and is available with AC and DC supply voltages.

Advanced sensor capabilities: An additional benefit of the Hybrid Actuation System is that it can be configured with integrated advanced sensors for absolute positioning, universal tilt positioning and condition and diagnostics monitoring. By integrating advanced wireless and cloud-based sensors directly into the new Hybrid Actuation system, cylinder feedback installation is virtually plug-and-play. Parker sensor-enhanced cylinders are rugged, and engineered to sustain performance in harsh environment power gen actuation applications like PV solar fields. HAS cylinder and actuation system features and benefits include:

- Extreme operating temperature rating (-40° to 221° F, 40 to 105 C)
- Sustains performance in applications exposed to vibration, dust, gravel, corrosives, chemicals, axial load, side load, and immersion
- Remains impervious to electronic noise and has been tested to ensure signal strength in the most rigorous applications.

- More -

About the Optional Sensors:

1) Intellinder -Absolute position monitoring Sensor

"The Intellinder sensor brings a unique competitive advantage to all of Parker's cylinders for solar actuation and other power gen actuation applications," said Bruce Besch, Advanced Motion Products Manager for Parker's Cylinder Division. The Intellinder Sensor signals absolute positioning, rather than position relative to the starting location of the rod. A position identifying bar code pattern is etched directly onto standard rods, with no alterations required to the cylinder's piston, head or cap. The optic reader bolts to the cylinder head, and the position is communicated continually and directly to the controller. Position reporting occurs at power-on and does not require calibration.

"Standard positioning technologies rely on magnetostrictive sensors, variable resistance sensors (string pots) and laser gauges. These all have limitations, including short strokes, dead zones, calibration needs, water ingress, temperature range restrictions, interference from contaminants, annoying electrical noise and time-consuming removal and repair. These problems all add inefficiencies to power gen operations, which increases operational cost. Parker Intellinder-enabled cylinders eliminate these issues and streamline solar power operations," Besch added.

Parker's design allows for full utilization of even double-rod cylinder applications, allowing customer utilization of both rod ends. Intellinder feedback devices utilize serial bus connectivity, so multiple Intellinder cylinders can be networked together with a single cable back to the host controller. True redundancy is achieved by simply adding multiple, non-contacting reader sensors to the cylinder.

2) SensoNode Gold cloud-based condition monitoring/diagnostics sensors

The cloud-based sensors provide a wireless, remote monitoring solution for the preventive maintenance of solar panels. By monitoring the pressure levels of the solar panel tracking system's hydraulic loads, end users can calculate how much extra pressure is being put on the panels. For more information on SensoNode Gold and SCOUT cloud-based technology, please visit: <http://solutions.parker.com/spmonitoring> (Featured in the SPI demonstrations on the Parker Hybrid Actuation System (HAS), Parker's proprietary SensoNode/SCOUT sensor line can also be integrated as an aftermarket solution with any solar panel control system.)

3) Universal Tilt Position Sensors (UTS)

Parker's Universal Tilt Sensor (UTS) is a 2-axis or 3-axis MEMS based device that detects absolute position of a solar panel within a range of $\pm 90^\circ$ from horizontal. able to communicate with the SAE J1939 CAN protocol. (Featured in the SPI demonstrations on the Parker Hybrid Actuation System (HAS), Parker's proprietary UTS sensor line can also be integrated as an aftermarket solution with any solar panel control system.) For more info, please visit our show landing page: <http://solutions.parker.com/SPI17>

Parker will be demonstrating its "hybrid" solar actuation system at Solar Power International in Las Vegas, September 10-13, Mandalay Bay Convention Center - Booth #1545. For full brochure on Parker's solar actuation solutions, please visit our web page: <http://solutions.parker.com/HAS> and read our blog: <http://blog.parker.com/new-hybrid-actuation-system-ideal-for-renewable-energy-applications>

About Parker Hannifin

Parker Hannifin is a Fortune 250 global leader in motion and control technologies. For 100 years the company has engineered the success of its customers in a wide range of diversified industrial and aerospace markets. Learn more at www.parker.com or @parkerhannifin.