

120 Vdc Linear Actuator (BV & VGV) Systems



120 Vdc actuators for bleed valve and guide vane applications are another valuable product in Solar's upgrade product portfolio

This package system design, in conjunction with other 120 Vdc package systems, provides a complete electric solution for both SoLoNOx™ and conventional combustion engines and utilizes the latest control system algorithms.

The 120 Vdc actuators are designed to replace existing hydraulic or pneumatic-hydraulic bleed valve or variable guide vane actuators, and in some cases 24 Vdc systems, and provide a consistent, tunable emission and engine controls system solution. The ease of installation, improved reliability and maintainability, along with the enhanced system performance, makes this design a simple but superior upgrade solution.

Benefits

- **No hydraulic oil lines**—eliminates issues related to oil leaks and variations in oil pressures.
- **Reliable operation**—battery-provided backup electrical power.
- **Longer service life**—electric actuation means fewer mechanical components and less associated wear and tear.

- **More accuracy and less hysteresis**—electric variable control provides a more precise positioning of the guide vanes and bleed valves.
- **Increased flexibility**—allows for variable guide vane exercising during engine non-operation (Solar Service Bulletins 8.6/112 and 8.6/113).
- **More effective servicing**—includes force monitoring for preventive maintenance.
- **Improved operation**—more reliable engine starts at high ambient temperatures, and improved emission control at high ambient temperature, part load conditions (SoLoNOx engine only).
- **Complete 120 Vdc retrofit solution**—complements existing aftermarket 120 Vdc systems solutions, such as fuel control modules, dc back-up lube systems, batteries and chargers.
- **Improved emissions**—for gas turbines that have been retrofitted with SoLoNOx combustion systems when combined with an aftermarket 120 Vdc SoLoNOx fuel module.

Primary Goals

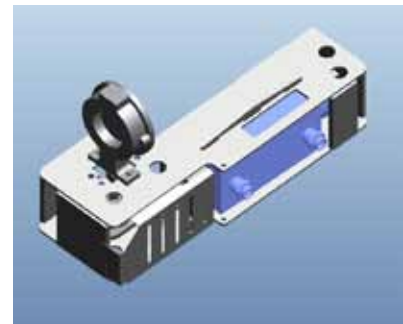
●	Operational Efficiency
●	Emissions Control
●	Machinery Efficiency
●	Reliability Enhancement

Worldwide Turbomachinery Support

Actuator	
Power	80 - 160 VDC, 20 A max
Temperature	
- Operating	-40°F to +200°F (-40°C to +93°C)
- Storage	-40°F to +257°F (-40°C to 125°C)
Approximate Measurement	5.2"x 6.5"x 16.7"
Approximate Weight	35 lb
Output Force	1000 lbf peak (100% Duty Cycle) 500 lbf continuous (100% Duty Cycle)
Mean Time Between Unscheduled Removals (MTBUR)	30,000 hours

Certifications: NEC/CSA - Class I, Division 1 & 2
ATEX - Zone 1 & 2

Control System: Turbotronic 3MX or Turbotronic 4



Product	Type	Standard Combustion		SoLoNOx Combustion	
		Guide Vane	Bleed Valve	Guide Vane	Bleed Valve
C40 (1)	HED	No	No	No	No
	CED	No	No	Yes	No
C50, T60 (1)	HED	No	No	No	Yes (4")
	CED	No	No	Yes	No
T70 (1)	HED	Yes (2)	Yes (4")	Yes (2)	Yes (4")
	CED	Yes (3)	Yes (4")	Yes (3)	Yes (4")
Mars (1)	HED	Yes	Yes (4")	Yes	Yes (4")
Titan	HED	Yes	Yes (4")	Yes	Yes (6")
	CED	Yes	Yes (4")	Yes	Yes (4")

Notes:

- 1) Can be done as a Package/Controls Upgrade, or done as part of a Package Refurbishment
- 2) Should be replaced as soon as practical, or at next overhaul
- 3) Solar recommends replacing to improve operational performance

Additional Information

For more information about 120 Vdc linear actuators from Solar, contact the field office nearest you or visit the website.

www.solarturbines.com