# **Turboexpander Control System Upgrades**

## PLCs & HMI OPTIONS

L.A.Turbine™

Rethinking Turboexpanders

**PLC Spec Sheet** 

L.A. Turbine (LAT) performs control system upgrades that allow for real time monitoring, data analysis and feedback on turboexpander machinery operations through the use of programmable logic controllers (PLC), human machine interface (HMI) panels and a distributed control system (DCS). The PLC is based on hardwired input/output (I/O) points and is preprogrammed with the control logic, and alarm and shutdown set points. Automated equipment monitoring results in faster problem identification and resolution, decreased operational downtime and better information on performance efficiency.

In addition to performing upgrades, LAT also provides in-house design, assembly and testing of new control systems in any configuration and size. Designs of note include dual-redundant PLCs with SIL 2 rating and communication systems. Factory Acceptance Testing (FAT) of the control system is also available and performed at LAT's testing facility.









Remote Control Cabinet

# PLC Control System Upgrade Capabilities & Services

#### L.A. Turbine:

- Delivers full-service in-house design, manufacturing, programming and testing plus on-site control system installation services
- Designs and fabricates spare or replacement parts for all control system makes and models
- Manufactures a variety of control system sizes and configurations including dual-redundant PLCs with SIL 2 rating
- Accommodates requests for a control system to be designed using a manufacturer of choice such as Allen-Bradley, Emerson/Fisher, GE or Siemens
- > Performs upgrades of switches and gauges to indicating transmitters
- Provides optional programming for performance monitoring of bearing temperature, vibration and speed
- Offers optional integrated or remote DCS communication capabilities via Modbus or Ethernet

- Ensures compliance with applicable area classifications and electrical standards including:
  - Industry standards: API 614, 617 and 670
  - Electrical standards: ATEX, IEC, Zones 1 & 2; NEC, Divisions 1 & 2;
     CSA, Division 1 & 2
  - Provincial standards: Algeria (DPEM), EU (PED, Stoomwesen, etc.),
     Canada (CSA) and Russia (GOST)
  - Corporate standards for Shell DEP, ExxonMobil, BP Amoco, Total S.A. and Chevron
- Offers remote and on-site diagnostic and emergency repair service 24/7/365 at +1 855 FX-TURBO







### L.A. Turbine

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24/7/365 Support Services

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