



Em-451

Single-Body, Anti-Surge Compressor Controller

The Em-451 series Single-Body Anti-Surge Controller is a Profibus network-attached compressor controller system. This module incorporates Petrotech's field-proven configurable anti-surge control algorithm into a small controller that is easily attached to any SIMATIC® Series 300 or 400 Master Controller via the Profibus communications protocol. At the beginning of the I/O scan, the Em-451 updates instrument inputs and sequencing commands issued by the Master Controller, processes the anti-surge protection algorithms and updates the output signal in about 25 milliseconds.



Petrotech Anti-Surge Control

The Petrotech algorithms provide consistent and accurate surge compressor protection across a wide range of process gas conditions, resulting in optimum anti-surge protection and elimination of unnecessary recycling.

Petrotech's advanced anti-surge protection algorithms automatically compensate for varying molecular weights, temperature, pressure, compressibility, and rotational speed.

The Em-451's configurable software is based upon Petrotech's experience gained in providing thousands of compressor control systems spanning 40 years.

Em-451 Features

- Fully integrated functionality
- Proven high-speed network interface
- Separate controller for fast processing
- Optional Capacity Control
- Optional Performance Calculations
- Optional Load Sharing Control
- Optional Stand-alone Display

The System

The Em-451 module can incorporate anti-surge protection, capacity control and load sharing programs into a space saving device.

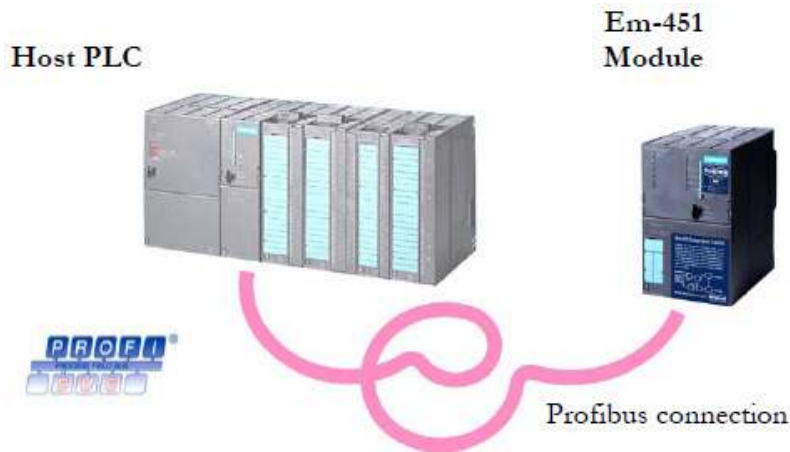
The Em-451 module reacts to rapidly changing pressures and flow rates to prevent surge, limit recycle losses and maintain process stability. Module configuration includes provisions for variable guide vanes, molecular weights and suction or discharge flow measurements.

In addition, the system provides selectable Auto/Manual/Safe-Manual recycle valve control, self-recalibration in response to surge events and Purge/Run-Up/Rundown sequencing coordination.

The Em-451 module is equipped with the anti-surge protection for a single-body (recycle loop) compressor and integral recycle transfer control.

The **Em-451** module makes adding a full-functioning Petrotech compressor anti-surge control to a PLC-based controller as easy as connecting a network cable.

The Em-451 Single-Body, Anti-Surge Compressor Controller



Options for this module include capacity control, performance calculations, and multi-compressor load-sharing controls. Load sharing control provides a common percentage command to compressors operating on common discharge headers. An Em-451 module is required for each compressor to be load share controlled. An optional Human Machine Interface (HMI) color touch-screen display with preloaded screens is available to provide a quick operator interface for the system.

For multi-body or multi-recycle loops, Petrotech also offers the companion to the Em-451, the Em-452. This module incorporates additional applications to process the multi-body compressor train.

Petrotech provides a full range of products and services for rotating machinery. We provide integrated control systems for gas, hydro and steam turbines, generators, compressors, pumps, reciprocating engines and all associated auxiliary systems. Also installation, startup, and commissioning services for a full turnkey solution.

For more information about Petrotech's products and services, visit our website at www.petrotechinc.com.



Contact us at:

Petrotech – New Orleans

Worldwide Headquarters
151 Brookhollow Esplanade
New Orleans, Louisiana 70123

PHONE: (504) 620-6600
EMAIL: info@petrotechinc.com

Petrotech - Houston

7240 Brittmoore Road
Suite 115
Houston, Texas 77041

(281) 220-3060
info@petrotechinc.com

Petrotech UK Ltd.

Western Way
Bury St. Edmunds
Suffolk, IP33 3SZ

+011 44 1284 715 770
enquires@petrotechincuk.com

petrotechinc.com

© 2015, Petrotech, Inc. Printed in the U.S.A.

This flyer is solely supplied for informational purposes and does in no way imply or represent a warranty of the information contained herein. This document is not construed as an offer to sell or solicitation to buy. For detailed information concerning your specific application contact Petrotech Incorporated. Petrotech, Inc. reserves the right to modify its products and related product information at any time without prior notification or obligation to notify.