

ELGS 1000

Electro-pneumatic Level Gauging System



Jumho Electric

ELGS 1000 Electro-pneumatic Level Gauging System

ELGS 1000 Overview of Components



Benefits and Features

- High accuracy with automatic calibration
- Advanced capacitive pressure sensor (Easily plug in and replace)
- Adaptive level sensing
- Excellent long stability resulting
- High update rate
- Small dimensions
- Low air consumption
- Low investment cost
- High safety level technology
- Module based system
- Easy installation
- Cost efficient

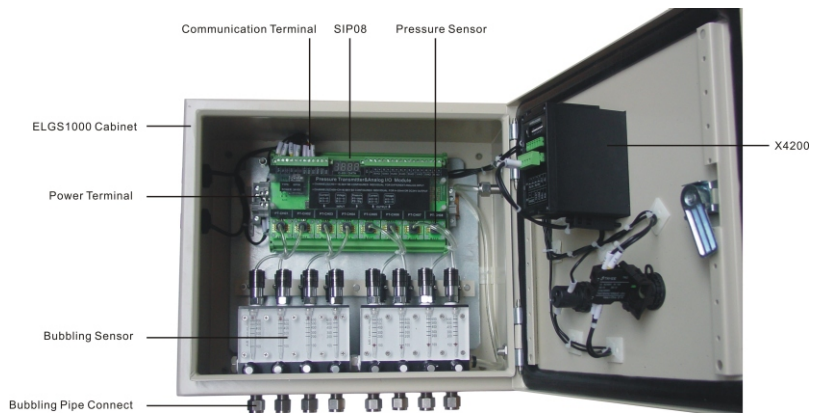
General Information

ELGS1000 performs calculations of tank levels and drafts based on continuously on-line measured hydrostatic pressure, considering all various parameters affecting the correct levels and drafts such as fluid density, pipe resistance, atmospheric pressure etc.

ELGS1000 using the electro-pneumatic principle “bubble measuring” has always been known as a very robust and reliable method.

We have combined the latest and best sensors in order to produce an electro-pneumatic system that combines low cost and high performance together.

Parts and Components:



Integrated sensor

Made of single IC
 Measuring range: 0-35m(Optional)
 Excellent repeatability
 Very small hysteresis
 Interchangeable with each other
 Low temperature dependence
 Excellent long term stability
 etc.

Control Unit

Pressure Transmitter & Analog I/O Module - SIP08
 8 pressure input channel
 Pressure measuring range: 0-3.5 Bar(Optional)
 Standard DIN35 installation
 Build-in programmable alarm monitoring
 SIP08 with analog input and output (optional)
 etc.

The Modular Cost Efficient Solution

Integrated sensor and Analog I/O Module - SIP08

The integrated sensor and analog I/O module (SIP08) is the heart of the ELGS1000. Each pressure sensor has been calibrated for non-linearity and temperature shift in order to provide optimal performance. SIP08 acquires pressure sensor signal and sends data to a computer, digital meter, and other device. SIP08 uses FPGA technology and makes real-time control robust and flexible.

Communication Port

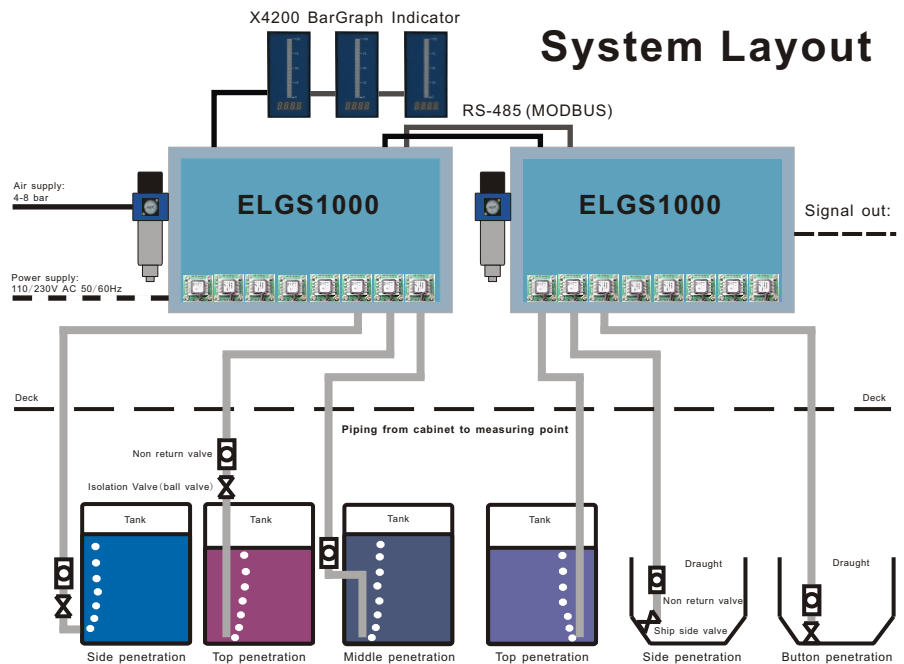
SIP08 sends level or pressure data using Modbus protocol. Customers can easily integrate the ELGS 1000 system with other devices.

Adaptive level gauging

This intelligent system automatically senses and compares measured levels, making the system adaptive. The tank filling speed does not have an effect on the level measurement because more air is given when the level in the tank increases.

Calibration

In addition to the high accuracy and reliability, the customer can calibrate the system per year using an external calibrator. It dramatically improves the accuracy of the level measurement.



ELGS1000 software driver

ELGS1000 uses RS-485 serial communication ports to communicate with the computer. The driver software provides a driver level interface and is integrated with C, VB, .net and LabVIEW. The driver provides you to configure the entire system, including communication parameters, modules and I/O setting, and different level parameters. You can also view input data values and set output values.

Cabinet

- Cabinet in power coated steel**
- All components mounted in
- Communication port - RS485
- Redundant Communication
- Connect with electric power
- Connect with main air supply
- Connect with pipes of tanks or draughts
- etc.

X4200 Bargraph Indicator

- Optional Unit**
- Bar graph display
- Single dot display
- Digital display, 4 digits.
- 2 relays output
- Buzzer output
- etc.

Technical Data

ELGS1000 Cabinet

Dimensions (cabinet).....	200×360×310 mm(W×D×H)
Weight.....	15KG
Enclosure.....	IP 44
Power supply.....	110V/230V AC 50/60Hz
Air supply.....	4-5 bar dry and clean instrument air

Environmental conditions

Temperature.....	-40 °C to +70 °C (Transport or storage)
	0 °C to +55 °C (Operating)

Pressure sensors

Number of sensors.....	8
Pressure range.....	0-3.5 Bar

System performance

Measuring range.....	35m tank height or draft
Typical accuracy.....	+/- 0.5% system full scale
Updating time.....	1 s
Analogue outputs.....	Up to 8 channel 4 ~20mA (Optional)

Air consumption

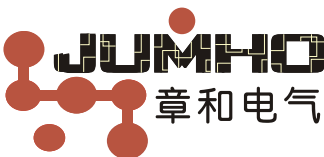
Empty tank.....	0.5 lit / min free air	0.07 lit / min (5 bar)
10m.....	0.85 lit / min free air	0.12 lit / min (5 bar)
20m.....	1.2 lit / min free air	0.17 lit / min (5 bar)
30m.....	1.4 lit / min free air	0.20 lit / min (5 bar)

Standard interface

Com1.....	RS-485
Com2.....	RS-485

Enclosure

Standard colour grey, others optional

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