

IEO - Intellisys Energy Optimiser (FAQ's)

1. Is it possible to remote monitor the IEO?

The IEO has an RS232 port for Modbus. Through that port the customer can get all "system" information from the IEO. They can also poll the individual compressors through this port and get all the information that they would get with the IRI. As with an IRI, the customer needs to write the Modbus commands.

2. With an installation of different sized compressors can the IEO select the appropriate compressor to meet demand?

Through the Event screen one can select the most appropriate sized compressor for the known reduced demand. For example weekends or night shifts. "Selective Rate of Change" which picks the appropriate compressor to demand by monitoring the change in pressure will be available Q4 2003. A software upgrade will be made available.

3. What is the minimum target pressure band?

0.2-barg with 0.1-barg increments or 2-psig with 1-psig increments. This is provided there is adequate storage.

4. Is the IEO tamper proof?

Yes there is a degree of tamper protection. The user can set a password via the set up screen.

5. We was told that with Nirvana provided the Nirvana pressure band sat in the middle of the ISC pressure band the Nirvana would become the lead then the lag machine.

This is true however the ISC pressure band would need to be wider than the Nirvana target pressure and auto stop pressure settings. Therefore the fixed speed compressors would operate at a higher than desired pressure. This is not the case with the IEO as this can operate at using one narrow pressure band.

Every 0.14-barg (2psig) increase in pressure results in 1% more power.

6. We notice that from several slides you have shown the air receiver after the air treatment. Surely this is incorrect?

Dry side receivers eliminate overloading of dryers. They provide a central control point and reduce transmission time. No precipitation of condensate is in the compressed air receiver. Arrangement in this way makes good sense when sudden peaks of requirement are anticipated and the quality of the compressed air must not deteriorate. Wet air receivers should be used where pulsation dampers are needed and the dryer is desiccant.

7. Are there any limitations on the length of cable from the compressor Intellisys panel to the IEO?

The stated distance limitation from the IEO to any single compressor is 1000 ft or 304 metres. So it is merely a case of supplying more cable if needed. The distance limitation from the IEO to the PT is 100 ft or 30 metres.

Supplied with the IEO is 304m of cable and 30m of transducer cable.

IEO - Intellisys Energy Optimiser installation and operating features

One Intellisys Energy Optimiser (IEO) can manage various types of compressors including rotary and reciprocating. In addition, an option is available for increased energy savings when managing Ingersoll-Rand Nirvana variable speed compressors.

Intellisys controlled compressors connect directly to the IEO and communicate through twisted pair cable. Rotary non-Intellisys controlled compressors require an Ingersoll-Rand supplied device known as the SI2 to be installed between the compressor and the IEO.

The IEO is capable of controlling the loading and unloading of multiple air compressors for the purpose of keeping a compressed air system's pressure at or near a user set value. It is a microprocessor based, self-contained unit that is mounted and powered independently from any compressor.

The IEO has a variety of simple, user adjustable modes of operation that enable it to be customised for specific compressed air system conditions. In response to system air pressure variations, as measured by the IEO's own sensor, it adds or subtracts air compressors in order selected by the user.

There are many conveniences provided by the IEO that simplifies both its set up and use. The following list outlines its many installation and operating features.

1. The IEO can manage from 2 to 8 air compressors
2. Compressors can be Intellisys or pre-Intellisys (rotary) models, or competitors.
3. System air pressure control is based on a single pressure point not multiple pressure bands.
4. System air pressure settings can be user programmed to change, based on pre-set time of day and day of week.
5. Load and unload delay times can be independently set to account for air system characteristics.
6. The IEO can be located remotely for the air compressors. (see FAQ's)
7. Connection to compressors is by telephone-type wire and connectors for easy installation.
8. An Ingersoll-Rand IntelliFlow system pressure controller can be connected to and managed by the IEO.
9. An Ingersoll-Rand dew point meter can be connected to and monitored by the IEO.
10. There can be up to 8 user programmable compressor sequences.
11. Rotation from one sequence to another can be user programmed based on running time, time of day and day of week, or manually.
12. The IEO will not start more than one compressor at a time to optimise energy savings.
13. Smooth rotation sequencers will avoid disruptions to system air pressure.
14. IEO operating parameters can be changed without stopping the system.
15. The IEO will automatically resume operation following a power outage.