KAESER COMPRESSORS

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Compressor Controller SIGMA CONTROL

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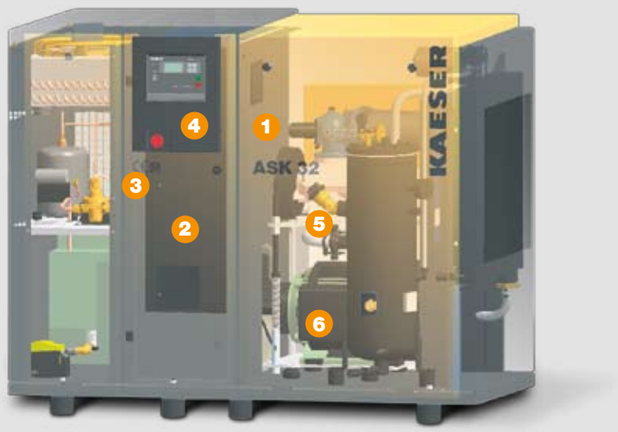
What do you expect from a compressor controller?

Above all, a compressed air supply should be reliable and efficient. To make this possible, intelligent compressor controllers are required in individual compressor units to complement additional compressed air management systems.

The PC-based SIGMA CONTROL forms the foundation of KAESER's integrated compressor management and control system, with the SIGMA AIR MANAGER compressor management system following on as a logical continuation of the concept. The SIGMA CONTROL BASIC completes the KAESER range of compressor controllers.

The modular design concept ensures seamless communication between all compressed air system components. Even users who start out with a small compressed air system are safe in the knowledge that any later system additions, whether they be compressors or air treatment units, will be able to communicate perfectly with new and existing equipment. Reliability and optimum energy efficiency are guaranteed at every stage of a compressed air system's development.



Integrated intelligence

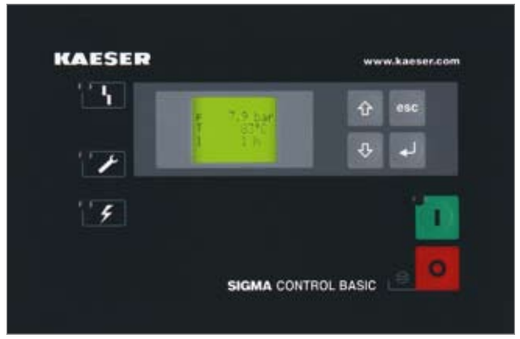
Highly-advanced: SIGMA CONTROL

The PC-based 'SIGMA CONTROL' precisely matches compressor power to compressed air demand. This leads to optimised energy efficiency, reduces maintenance costs and increases compressed air system reliability. With its wide range of communication interfaces, the SIGMA CONTROL is the perfect choice for compressor networking and interaction via the SIGMA AIR MANAGER compressed air management system.

SIGMA CONTROL

SIGMA CONTROL BASIC

Increasing numbers of smaller companies are using individual rotary screw compressor units to provide their air supply, but do not require the range of functions offered by the SIGMA CONTROL. This is where the SIGMA CONTROL BASIC from KAESER comes into its own, as it delivers significant energy savings with enhanced compressor system reliability. If a company's demand for compressed air should increase due to expansion, then SIGMA CONTROL BASIC units are able to work together with SIGMA CONTROL equipped compressor systems. Furthermore, SIGMA CONTROL BASIC units can also be simply integrated into compressed air installations controlled by a SIGMA AIR MANAGER compressed air management system.



SIGMA CONTROL BASIC

1. Pressure sensor
2. Control cabinet
3. Power relay
4. SIGMA CONTROL (BASIC)
5. Airend
6. Drive motor

Optimum efficiency

Appropriate for use with individual compressors, SIGMA CONTROL BASIC uses the Dual control mode and operates via an electronic pressure sensor with low switching differential. Featuring Dual, Quadro, Vario and Continuous control modes, the SIGMA CONTROL enables compressor operation to be individually tailored to meet specific air requirements. The PC-based controller uses RS232 or Profibus interfaces, for example, to communicate with compressed air management systems such as the SIGMA AIR MANAGER.

User benefits

Around-the-clock reliability

The advanced SIGMA CONTROL consists of components that have been tested a million times over. The controller was also tested in compressors under extreme conditions and is EMC tested in accordance with international regulations. This guarantees maximum system reliability and compressed air availability even with continuous use.

More energy savings

The pre-programmed Dual, Quadro, Vario and Continuous control modes enable the SIGMA CONTROL to precisely match compressor power to actual air demand. This results in even greater energy savings, as costly compressor idling phases are reduced to an absolute minimum.

Reduced maintenance costs

The maintenance interval indicator on the SIGMA CONTROL BASIC can be programmed to meet specific compressed air application requirements, consequently leading to reduced maintenance costs. Control deviations can be traced on the SIGMA CONTROL. The comprehensive event memory assists maintenance and service work, further reducing costs.

Enhanced communication

SIGMA CONTROL data is displayed simply and clearly on the large screen which can show all information in any 1 of over 30 selectable languages at just the press of a button. Standard interfaces for data transfer and modem connection enable communication with compressed air management systems and allow remote access via KAESER's TELESERVICE facility.

Tailored intelligence

SIGMA CONTROL for SX to HS series compressors

With its versatile control, monitoring and communication abilities, the SIGMA CONTROL is the ideal choice for applications requiring sophisticated communication functionality. It is therefore fitted as standard on all KAESER ASD to HS series rotary screw compressors and is optionally available for SX, SM, SK and ASK series compressors.

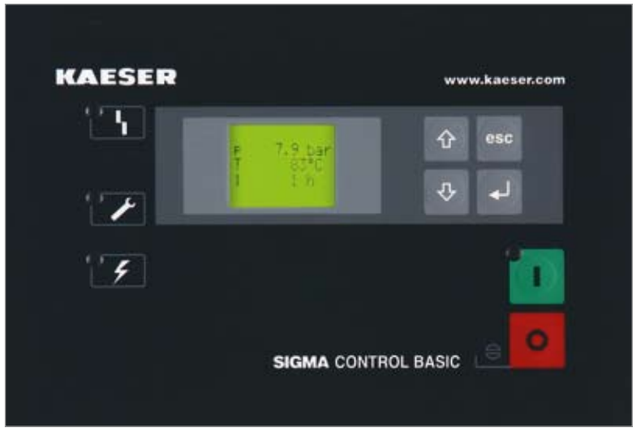
Series: SX – HSD

SIGMA CONTROL

SIGMA CONTROL BASIC for SX, SM, SK and ASK series compressors

Available with SX, SM, SK and ASK series compressors, the SIGMA CONTROL BASIC is the perfect solution for users who initially require a single compressor for their air supply, but who also may wish to expand the compressed air system in the future. Furthermore, KAESER's modular control and compressed air management concept ensures trouble-free system compatibility.

Series: SXC, SX – ASK



SIGMA CONTROL BASIC

SIGMA CONTROL – Main Features

- Over 30 languages – large plain text display
- Timer with 4 channels, each with four settings for day, week and year adjustment
- Base-load changeover for two compressors
- Dual-, Quadro-, Vario- and Continuous control modes
- Signal input for remote ON/OFF
- Signal input for load/idle
- External alarm e.g. for refrigeration dryer
- External maintenance alarm e.g. for ECO DRAIN
- Volts-free contacts: Controller on, group alarm, motor running; alternative factory adjustable volts-free contacts: Compressor ON, group alarm, remote operation, idle, on-load clock active, timer contact, emergency off, bus alarm, air network pressure low
- "Motor running" changeover contact for ventilation systems, volt-free, max 3 A, 230 V ±10%
- Service hours counter, measurement and status data display
- Interfaces: RS 232 for Modem, RS 485 for slave compressor, Profibus DP
- 'Safety chain' for compressor protection
- Electronic pressure transducer
- Configurable inputs / outputs for additional functionality

This list only highlights some of the SIGMA CONTROL's functionality.

SIGMA CONTROL BASIC – Functions

- Quick and simple operation with clear icons and large display
- Fully automatic DUAL control (full load/ idle/ on/off control)
- Monitoring of air network pressure parameters, airend temperature and direction of rotor rotation
- Counter for service, load and operation hours
- Adjustable service intervals, pressure and temperature unit selection (bar/psi/MPa/°C/°F)
- Nominal system pressure can be adjusted separately
- Adjustable switching differential
- Group alarm volts-free contact
- Electronic pressure transducer

The optional memory module

The optional memory module enables compressors equipped with the SIGMA CONTROL BASIC to be connected to master control systems such as the KAESER SIGMA AIR MANAGER.

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The function keys in detail

Basic functions

ON key switches the compressor 'ON' -> automatic self control operation. Green LED indicates 'Compressor ON'.

OFF key switches the compressor 'OFF'.

Additional functions

Idle key switches the compressor from load to idle.

Idle icon green LED indicates 'Compressor idling, no air supply'.

Load icon green LED indicates 'Compressor on load, air being supplied'.

Remote ON key (green LED) switches remote control 'ON' and 'OFF'.

Timer ON/OFF key switches the timer 'ON' and 'OFF'. Green LED indicates 'Timer ON'.

'Traffic light' functions

Alarm icon red LED indicates 'Compressor alarm'. Compressor is shut down on alarm.

Communication alarm icon red LED indicates 'Data communication to other systems interrupted or faulty'.

Maintenance icon yellow LED indicates 'Maintenance due' or 'Maintenance counter exceeded', or 'Warning'.

Power ON icon green LED indicates 'Main switch ON, power supply available'.

Menu functions

DOWN key scrolls through text line for line.

UP key scrolls through text line for line.

esc

Escape key returns to next higher menu level.

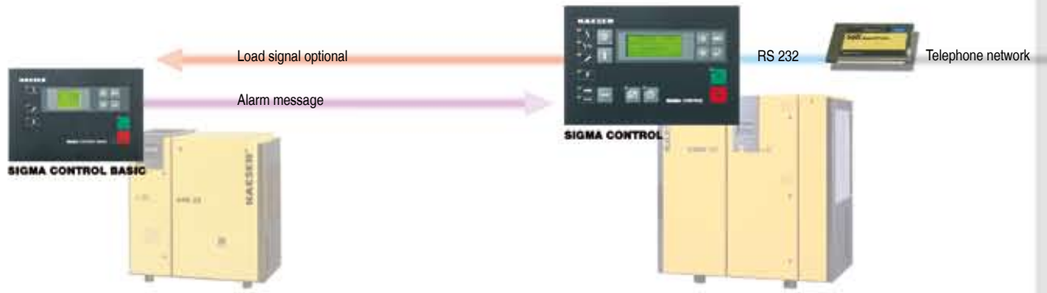
Return key initiates jump to next sub-menu or accepts value.

Acknowledge key confirms alarms and – when permitted – resets the alarm memory.

Info key access to additional information or to the event information memory.

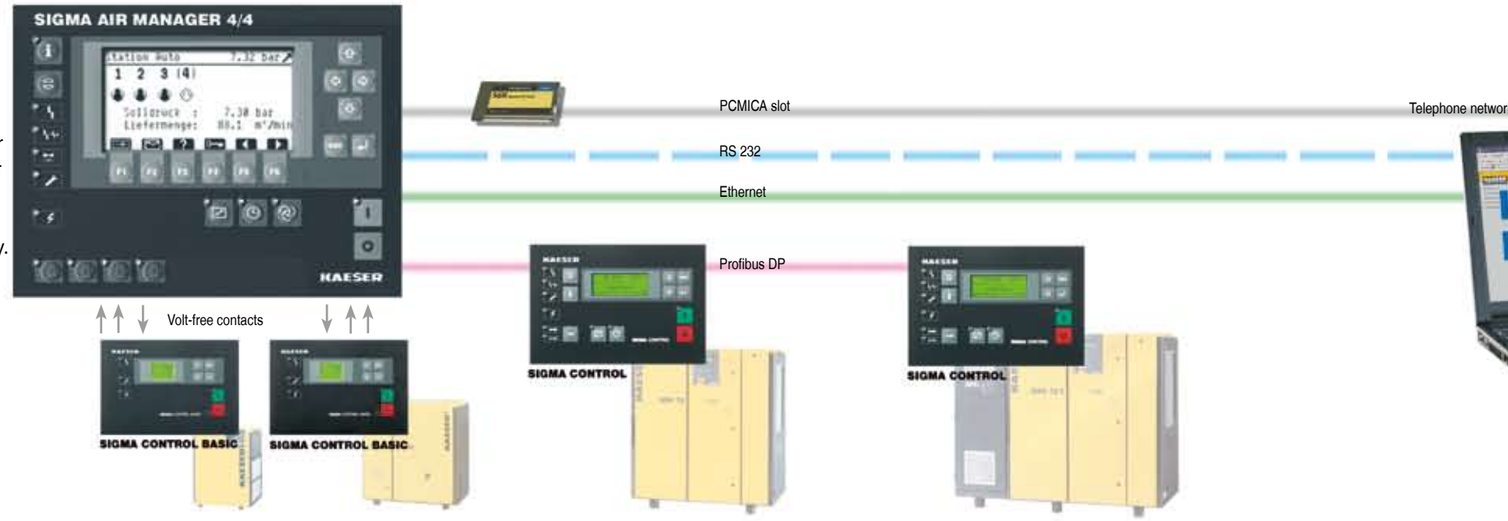
Information technology with global access

1 The modular design of KAESER's SIGMA control concept means that compressor systems can easily be expanded/ reduced in size and still maintain maximum efficiency. Should increased air demand in a growing company exceed capacity of the next SIGMA CONTROL BASIC equipped compressor, then a SIGMA CONTROL compressor unit operating in base load mode would be added as the first stage of expansion.



The Modem Kit enables the SIGMA CONTROL to send alarm and maintenance messages to users or service personnel via SMS.

2 Further compressors are added in the second stage – in this case a SIGMA CONTROL BASIC and SIGMA CONTROL compressor unit. Coordination is taken-over by a SIGMA AIR MANAGER. The pressure band control ensures optimum use of energy. Seamless communication between all system components guarantees maximum compressed air availability.



By inputting the correct password, SIGMA AIR MANAGER controlled compressor installations can be accessed from any PC with internet access. HTML pages of the compressor's operational data are generated by the SIGMA AIR MANAGER's integrated web server and can be viewed on the internet via any PC equipped with Internet Explorer version IE 6.0 or later.

3 A modular design is only as good as its future compatibility. This poses no problem for KAESER's SIGMA control concept: Using the corresponding expansion level, the SIMGA AIR MANAGER can control up to 16 compressors. That's not all: In combination with SIGMA CONTROL compressor controllers and with its integrated communication capabilities, the SIGMA AIR MANAGER is a highly effective compressed air control tool.

The optional SIGMA AIR CONTROL plus software utilises the SIGMA AIR MANAGER's long term memory and is the ideal tool for thorough compressed air auditing. Every SIGMA AIR MANAGER can be connected to the telephone network to enable remote maintenance access via the KAESER Teleservice facility.

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KAESER – The world is our home

As one of the world's largest compressor manufacturers, KAESER KOMPRESSOREN is represented throughout the world by a comprehensive network of branches, subsidiary companies and authorised partners in over 60 countries.

With innovative products and services, Kaeser Kompressoren's experienced consultants and engineers help customers to enhance their competitive edge by working in close partnership to develop progressive system concepts that continuously push the boundaries of performance and compressed air efficiency. Moreover, the decades of knowledge and expertise from this industry-leading system provider are made available to each and every customer via the Kaeser group's global computer network.

These advantages, coupled with KAESER's worldwide service organisation, ensure that all products operate at the peak of their performance at all times and provide maximum availability.

LGA InterCert
Certified QM/EM System
ISO 9001:2008 / ISO 14001:2004

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