Internal Compressor Controller

SIGMA CONTROL 2

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Integrated intelligence: The next dimension

KAESER KOMPRESSOREN's revolutionary modular concept takes compressor controllers to the next level and beyond. Welcome to the world of SIGMA CONTROL 2.

One size fits all

The SIGMA CONTROL 2 features a highly flexible modular design, yet its standard construction means that this versatile control system can be matched to suit the needs of any rotary screw compressor from KAESER KOMPRESSOREN's extensive range. Comprising a main control unit and separate input/output modules, this modular concept therefore enhances communication and user-friendliness.

Integrated web server

The SIGMA CONTROL 2 is equipped with its own web server, making it possible to communicate with the compressor via intranet/Internet. Operational data and maintenance and alarm messages can therefore be viewed, with password protection, from any PC running a standard Internet browser. This feature consequently simplifies operation and maintenance for example.

Flexible communication

SIGMA CONTROL 2 communicates internally with the compressor via input/output modules that are tailored to meet the specific needs of the various compressor ranges; this future-proof concept therefore offers exceptional flexibility. Moreover, Ethernet interfaces and numerous plug-in bus communication modules enable external communication with utilities management and centralised control systems.

Security with RFID

SIGMA CONTROL 2 provides high level security with its integrated RFID (Radio Frequency Identification) functionality. Not only does this technology ensure secure log-in for users and/or KAESER service engineers, but also safeguards the system against unauthorised changes or operation. Manufacturer-provided passwords are no longer required.

The intelligent way to save energy

With multiple compressor control modes, a timer and base-load sequencing function, compressor energy consumption is now lower than ever before. The precision electronic pressure sensor enables exact switching differential selection to meet requirement thereby ensuring further savings.

KAESER
COMPRESSORS

SIGMA CONTROL 2

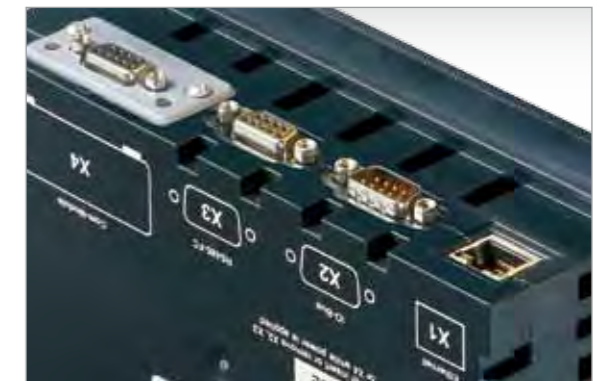## Modular design –
Dependable performance

The control centre

The control unit features an easy to read display and durable input keys; all relevant information can be viewed at a glance. User-friendliness is further enhanced by the logical menu structure coupled with the ability to display data in any one of 30 selectable languages.

Stay connected

The Ethernet interface (10/100 MBbit/sec) allows users to directly call-up operational parameters via a connected PC network. Optional communications modules support Modbus-RTU, Modbus/ TCP, Profibus DP-VO, DeviceNet and ProfiNet IO.

Your security

The addition of RFID functionality to the SIGMA CONTROL 2 means that service work and system changes to the compressor can be performed only by authorised personnel, e.g. suitably qualified KAESER service partners. Manufacturer-provided passwords are not required.

Update and save

Software updates and operational parameters can be quickly uploaded and transferred via the convenient SD card slot. This both minimises service costs and allows the SD card to be used for (long-term) storage of key operational data.

Equipment

Control systems

Modular design comprising control unit, input/output modules, network components and web server. Designed for use with Kaeser rotary screw compressors.

'Traffic light' LED indicators show operational status at a glance, plain text display, 30 selectable languages, fully automated monitoring and control. Selection of Dual, Quadro, Vario, Dynamic (dependent on compressor size) and continuous control as standard, timer, base-load sequencing function when operating two compressors. Web server with operational data remote display.

Hardware

Advanced processor hardware; all components designed for industrial operating conditions.

Graphical display: graphs showing pressure, compression temperature; LED indicators and tactile membrane keys; real-time clock with battery back-up; precision electronic pressure transducer.

Control cabinet

Dust and splash-proof, IP 54 compliant, input/output modules with coded connectors for the signal sensor connection cable, terminal strip for additional floating contacts.

Interfaces

SD card slot for updates and long-term storage of operational data; USS bus for frequency converter, RFID reader (Radio Frequency Identification), Ethernet. Slot for communications modules.

Certification

CE, cULus, EMV. Maritime certification GL, ABS, LRS, DNV.

Web server

Control panel and menu structure visualisation, e.g. event history and display of graphs.

Options / Accessories

Plug-in communication module for: Profibus DP-VO; ProfiNet I0, Modbus TCP, DeviceNet and Modbus RTU.

Modem: Upon request

Image: Plug-in communication module

Technical Specifications

Model	Used in	Selectable control modes Functions	Web server	Can be connected to Sigma Air Manager	
				Via Profibus	Floating
SIGMA CONTROL 2	Rotary screw compressors	Dual, Quadro,Vario, Continuous, Dynamic[1], system monitoring	●	Yes	Available
Additional control systems from KAESER					
SIGMA CONTROL	Rotary screw compressors up to 2011	Dual, Quadro,Vario, Continuous, Dynamic, system monitoring	–	Yes	Available
SIGMA CONTROL BASIC	Rotary screw compressors up to ASK	Dual, Quadro, system monitoring	–	–	Available
OMEGA CONTROL	Rotary blower systems	System monitoring	–	–	Available
SIGMA CONTROL MOBILE	Portable compressors	Proportional control, system monitoring	–	–	Available

Model	Interfaces									
	RFID	Profibus DP-V0	ProfiNet I0	Modbus TCP	DeviceNet	Ethernet	CAN-Bus	GPS/GSM	Modem	SD slot
SIGMA CONTROL 2	●	○	○	○	○	●	–	–	○	●
Additional control systems from KAESER										
SIGMA CONTROL BASIC	–	–	–	–	–	–	–	–	–	–
OMEGA CONTROL	–	–	–	–	–	–	–	–	–	–
SIGMA CONTROL MOBILE	–	–	–	–	–	–	●	○	–	–

[1] Dependent on compressor size   ● Standard   ○ Option

The function keys in detail

Basic functions

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

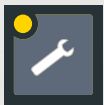**O** — OFF key Switches the compressor "OFF".
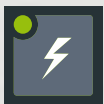
"Traffic light" functions

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 expired" or "Warning".

Power ON icon green LED indicates "Main switch ON, mains and supply voltage present".

Additional functions

Load icon – Green LED – indicates "Compressor on load, air being supplied".

Idle icon – Green LED – indicates "Compressor running, no air supply".

Idle key switches the compressor from load to idle.

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

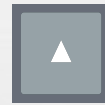Timer ON/OFF key – Green LED – switches the set timer function 'ON' and 'OFF'.

Menu functions

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

i — Info key Access to current event information.

▲ — UP key moves the cursor on the display up.

▼ — DOWN key moves the cursor on the display down.

▶ — RIGHT key moves the cursor on the display to the right.

◀ — LEFT key moves the cursor on the display to the left.

esc — Escape key returns to next highest menu level.

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

Image: SIGMA CONTROL 2

KAESER – The world is our home

As one of the world's largest manufacturers of rotary screw compressors, KAESER KOMPRESSOREN is represented throughout the world by a comprehensive network of branches, subsidiary companies and authorised partners in over 100 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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