

Internal Compressor Controller

SIGMA CONTROL 2



SIGMA CONTROL 2

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 or rotary blower from KAESER KOMPRESSOREN's extensive range. Comprising a main control unit and separate input/output modules, this modular concept therefore enhances communication and maintenance-friendliness.

Integrated web server

The SIGMA CONTROL 2 is equipped with its own web server, making compressor status visualisation possible 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

The 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, variable plug-in bus communication modules enable external communication with utilities management and centralised control systems.

Security with RFID

The 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.



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 and the ability to display data in any one of 30 selectable languages.



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.



Stay connected

The Ethernet interface (10/100 Mbit/sec) allows users to directly call-up operational parameters on a connected PC network via the integrated web server. Optional communications modules support Modbus-RTU, Modbus/TCP, Profibus DP-VO, Device-Net and Profi-Net IO.



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 system with 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 confusion-free 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, EMC. Marine certification GL, ABS, LRS, DNV. International ra-

dio certification for RFID (FCC, CMIIT, MIC/KS and C –Tick).

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 IO, Modbus TCP, DeviceNet and Modbus RTU.



Image: Plug-in communications module

Technical specifications

Model	Used in	Selectable control modes Functions	Web server	Can be connected to SIGMA AIR MANAGER 4.0		
				SIGMA NETWORK	Via Profibus	Floating
SIGMA CONTROL 2	Rotary screw compressors	Dual, Quadro, Vario, Continuous, Dynamic ¹⁾ , system monitoring	●	●	●	Possible

Additional control systems from KAESER

SIGMA CONTROL	Rotary screw compressors up to 2011	Dual, Quadro, Vario, Continuous, Dynamic, system monitoring	–	–	●	Possible
SIGMA CONTROL BASIC	Rotary screw compressors up to ASK	Dual, Quadro, system monitoring	–	–	–	Possible
SIGMA CONTROL 2	Rotary blower systems	Speed and pressure control with OFC packages; Dual (option with STC)	●	●	●	Possible
SIGMA CONTROL MOBILE	Portable compressors	Proportional control, system monitoring	–	–	–	Possible

Model	Interfaces								
	RFID	Profibus DP-VO	ProfiNet IO	Modbus TCP	DeviceNet	Ethernet	CAN-Bus	GPS/GSM	SD slot
SIGMA CONTROL 2	●	○	○	○	○	●	–	–	●

Additional control systems from KAESER

SIGMA CONTROL BASIC	–	–	–	–	–	–	–	–	–
SIGMA CONTROL MOBILE	–	–	–	–	–	–	●	○	–

¹⁾ Dependent on compressor size ● Standard ○ Option

The function keys in detail

Basic functions

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

'Traffic light' functions

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- Alarm icon – Red LED – indicates 'Compressor alarm'. Compressor is shut down on alarm.
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- Communication alarm – Red LED – indicates 'Data communication to other systems interrupted or faulty'.
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- Maintenance icon – Yellow LED – indicates 'Maintenance signal active' or 'Maintenance counter expired' or 'Warning'.
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- Power ON – Green LED – indicates 'Main switch ON' mains and supply voltage present'.

Additional functions

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- Load icon – Green LED – indicates 'Compressor on load, air being supplied'.
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- Idle icon – Green LED – indicates 'Compressor running, no air supply'.
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- Idle mode key switches the compressor from load to idle.
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- Remote ON key – Green LED – switches remote control mode 'ON' and 'OFF'.
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- Timer ON/OFF key – Green LED – activates / deactivates the set timer function.

Menu functions

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- Acknowledge key – confirms alarms and, when permitted, resets the alarm memory.
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- Info key
Access to current event information.
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- UP key – moves the cursor on the display up.
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- DOWN key – moves the cursor on the display down.
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- RIGHT key – moves the cursor on the display to the right.
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- LEFT key – moves the cursor on the display to the left.
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- Escape key – returns to next highest menu level.
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- Return key – initiates jump to next sub-menu or accepts values.



Image: SIGMA CONTROL 2 for blower packages

KAESER – The world is our home

As one of the world's largest compressed air systems providers and compressor manufacturers, 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.

