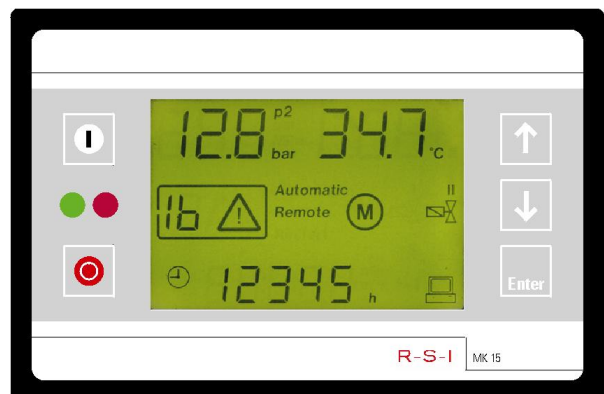


## Data sheet MK 15

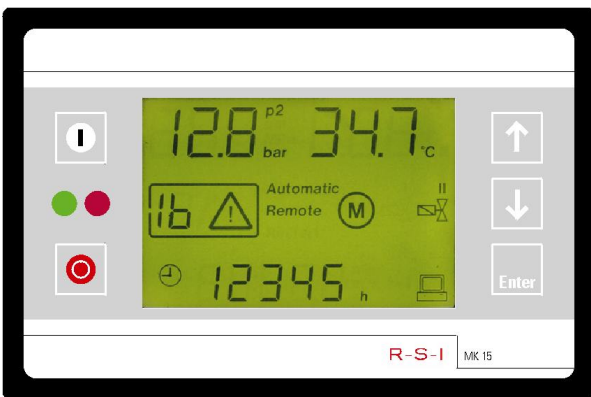


Customized solution or off-the-shelf: The choice is yours!

## R-S-I MK 15 – data sheet

Looking for a quick and reliable solution? – Then rely on our standard products: Our universal controls provide valuable solutions for a wide range of applications. We offer you the benefit from our broad experience of over thirty years. And even with our basic products some variation can be achieved: Each control can be combined with several different types of displays and operating sequences can be configured for individual needs.

### Standard Product



**Fig. 1: MK15 design CM. Version with 2x16 LCD (backlit) also available.**

The R-S-I MK 15 gives you full control of your air compressor at any time for enhanced protection and complete information at a glance.

In addition it features an on-board pressure sensor (optional), which can be used instead of an analog input.

### Hardware

In the standard version MK 15 offers three analog inputs, eight digital inputs, six digital outputs and one serial interface (RS 485):

- Two pressure sensors (line pressure, end pressure) can be connected to the two 4-20mA analog inputs
- Analog input no. three can be used for a temperature sensor (infineon KTY 11-7 recommended) to continuously monitor motor temperature
- The first digital input is reserved for an emergency stop button. Its activation will stop the compressor immediately.
- Two digital inputs (no. seven and eight) are specialized for the use with a PTC. This allows you to monitor for excess motor and end temperature (or any other temperature you want to keep an eye on) and to stop the compressor in time. No additional thermal overload devices necessary!
- Each of the remaining five digital inputs are programmable and can be used for external control signals (external on/off, load request, ready) used to communicate with a sequencer, or for external maintenance, warning or fault messages. If an input is configured as "external fault", a signal leads to a shut-down. Use these inputs to monitor signals of external devices such as dryers or differential pressure switches.

**Customized solution or off-the-shelf: The choice is yours!**

## R-S-I MK 15 – data sheet

All-purpose compact microprocessor control for switch cabinet installation with integrated on-board pressure sensor. Includes software for a single stage, oil lubricated, rotary screw compressor.





- Relay output no. one can be used to connect an operating lamp or a warning lamp. It will be energized if any fault is present.
- The relay outputs no. two, three and four are used for main, star and delta contactor
- Relay output no. five controls the inlet valve
- One relay output (no. 6) can be configured. Use it to control a heater – the relay will be energized as soon as the end temperature falls below the allowed limit – or choose one of the following signals: ready (compressor is ready to start), running (the motor is running), load (compressor on load), no load, maintenance (maintenance message is present), warning (warning message is present), fault (fault message is present)
- The serial interface (RS 485) can be used for software updates and/or for upgrading: connect one or several of our MK 200 I/O modules for additional inputs and outputs.

### Software

The display of the MK 15 shows current values of line pressure, end temperature as well as the status of the compressor using easy to understand symbols (or plain text in the version with 2x16 LCD).

The software also contains menu structure which is secured through a four-digit code. Three code levels provide full security: After entering the user code all parameters necessary for a specific configuration can be set. The manufacturers code protects settings

critical for a specific compressor. The service code allows to set and reset the hours until the next service.

Symbol	description
	motor is running
	inlet valve open
	warning
	fault

Special features and important parameters of the MK 15:

- Start and stop pressure (pressure setpoint): define your individual range for the line pressure
- Operation mode: choose between continuous or automatic mode
- Damage prevention: the MK 15 protects the compressor by automatically switching it off if the end pressure, the line pressure, or the motor temperature exceed the defined limits
- Configuration of digital inputs and outputs: adjust the MK 15 to your individual needs: use it together with a sequencer or create additional warnings or faults to protect your compressor or to monitor external devices
- Definition of individual time spans: set your individual star-delta time, follow-up time and soft run-out.

# R-S-I MK 15 – data sheet

All-purpose compact microprocessor control for switch cabinet installation with integrated on-board pressure sensor. Includes software for a single stage, oil lubricated, rotary screw compressor.

- Monitoring of the compressor: check any time on actual line and end pressure, motor temperature and compressor status
- Service reminder: monitor operating hours as well as load hours to see the utilization of your compressor. The MK 15 provides a warning (or fault) message in time for the next service.
- Track messages: the failure memory stores all warnings and faults and allows to easier understand occurring problems.
- Do not worry: useful default values for all parameters prevent damages if parameters have been set incompletely.

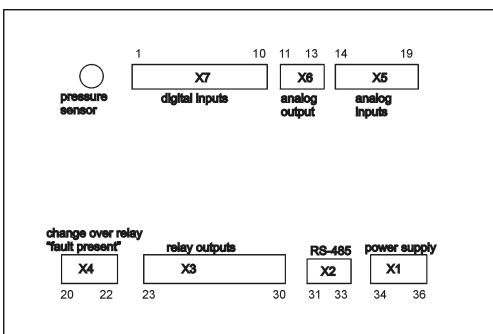


Fig. 2: rear view of the MK15.

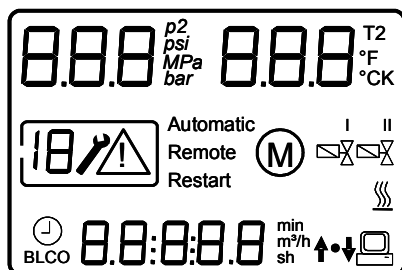


Fig. 3: Backlit display of the MK15 (version CM).

## Description

All-purpose compact microprocessor control for switch cabinet installation with integrated on-board pressure sensor. Includes software for a single stage, oil lubricated, rotary screw compressor.

## Housing – Display – Keyboard

- Front/Back plate: metal, 144 x 96 mm (w x h)
- Housing: plastics, 136 x 90 x 80 mm (w x h x d) (including terminal blocks)
- Opening in switch cabinet: 138 x 92 mm (w x h) (according to DIN 43700 / IEC 61554)
- Protection class: front plate IP 55, housing IP 40
- Display: customized backlit display with 7-segment-displays and easy to understand symbols or LCD 2x16, backlit
- Keyboard: keypad with 5 RAFI short-travel keys, 1 red failure / alarm LED, 1 green operating LED

## Operating Conditions

- Power supply: 24VAC / 50 - 60 Hz
- Operating temperature: 0 ... 60°C
- Humidity at 40°C: max. 95%

R-S-I will help you to perform!

## R-S-I MK 15 – data sheet

All-purpose compact microprocessor control for switch cabinet installation with integrated on-board pressure sensor. Includes software for a single stage, oil lubricated, rotary screw compressor.

### Digital Inputs

6x 24VDC

2x 12VDC (PTC)

### Digital Outputs

5x relay, NO (normally open) 230VAC

1x relay, CO (change over) 230VAC

### Analog Inputs

2x (0)4 ... 20mA

1x KTY

### Interfaces

RS 485

### Connection

Rear-side terminals

### CPU

16 bit, 64k flash memory

battery-buffered real-time clock

### EMC

Interference resistance: EN 61000-6-2

Emissions: EN 61000-6-3

### Options

1 x onboard pressure sensor

1 x analog output (0)4...20mA

### Add-ons

MK 200 I/O modules (rail mounted, connection via RS485):

8E/4RA 8x digital inputs,  
4x digital (relay) outputs

12RA 12x digital (relay) outputs

8E/4AE 8x digital inputs,  
4x analog inputs with measuring  
amplifier

4AA 4x analog outputs (0)4...20mA

MK 200 communication modules

### Software

Software for a single stage, oil-lubricated, rotary screw compressor. Password-protected menustructure.

Software-update: reprogramming of flash memory possible

Art.-Nr. 003088 (version CM)  
Or 003089 (with 2x16 LCD)

R-S-I will help you to perform!