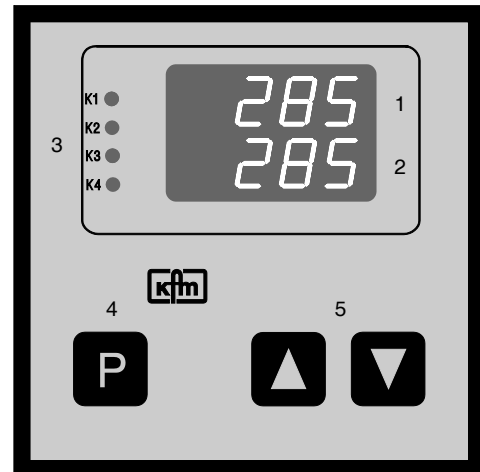


- 1 Digital display actual value
- 2 2nd digital display (if active)
- 3 LED-display relay function
- 4 Key for setpoint and parameter mode
- 5 Setpoint adjustment
- 6 Parameter mode lock switch (back face)



Certifications: DIN, BV, DNV, GL

Brief description:

KFM 92 is a microprocessor based industry controller series in panel mounting- format 96 x 96 mm. Design and operating elements are especially devised for easy and convenient handling and operation. An assembly system renders possible the simple basic version as well as a plurality of variants with up to 8 relays, several digital and analog out- and inputs and other additional devices. All relay contacts are implemented as potential-free changeover contacts. Depending on the version, external RC combinations are included, internal RC combinations for optional connection to terminals (N.O. contact factory- connected) or the N.O. contacts of all relays are permanently wired internally with RC combinations. The scope of delivery includes pluggable terminal blocks.

Types:

(depending on configuration*):

- indicator
- one stage controller
- two stage controller
- heating / cooling controller
- positioner / follow-up controller
- two- point- PID controller
- three- point- PID controller
- three- point- step controller
- continuous controller
- continuous controller, 2 outputs

type:

- 9201.
- 9210.
- 9220.
- 9230.
- 9240.
- 9250.
- 9260.
- 9270.
- 9280.
- 9281.

Inputs:

- max. 4 measuring inputs, acc. to sub-type:
- Pt100 DIN, 0...400°C
- Pt100 DIN, 0...100°C
- thermo couple Ni Cr Ni (type K)0...1200°C
- thermo couple Fe Cu Ni (type J)0... 900°C
- thermo couple Pt Rh Pt (type S)0...1700°C
- feedback device 0...100 up to 1000 Ω
- standard signal 0(4)...20mA, 0(2)...10V
- combined input Pt100 / standard signal

- type suffix
- none (or 0)
 - 1.
 - n.
 - f.
 - p.
 - w.
 - e.
 - q.

Sub-types:

- basic function
- basic function + 1 additional contact
- basic function + 2 additional contacts
- 2 x basic function
- extension: logic output

suffix (*)

- .0
- .1
- .2
- .3
- ..L

function extensions

- cascade controller
- program controller
- ramp set point value
- step controller

suffix (*)

- 991k
- 991p
- 991r
- 991t

Additional devices:

- additional analog inputs
- external set value incl. switch-over
- second set value incl. switch-over
- binary input to switch special functions
- additional switching contacts
- analog signal outputs
- serial interface RS 232/485
- interface Profibus, Interbus S, other

(*)

- (99) a
- (99) bwa
- (99) bwz
- (99) b..
- (99) f..
- (99) o.
- (99) s.
- (99) sp/si.

Ranges:

Pt 100: 0...400°C, switchable to °F, optional: other ranges; for standard signal range adjustable -999 to 4000. Setpoint ranges can be limited by menu

Displays:

2 four- figured digital displays, decimal point adjustable, upper display: actual value, lower display: other selectable data, up to 8 LEDs for relays function display.
Display of function:
 Hold down the P-key for more than 5 sec to get a short-cut message of the configured function on the display (=position 3-5 of list number) (in case of locked parameter mode only).

Measuring line monitoring:

Display "Err 1...4" in case of measuring line fault and adjustable safety shut down of all outputs

Outputs:

up to 8 relays with potential free change over switch, as control outputs or as additional contacts, capacity: 250V 2A, incl. spark extinction (for normally open contacts) 1-2 continuous outputs 0/4...20mA, 0/2...10V as control or signal outputs(apparent ohmic load 500 Ω)

* In case of more than 1 extension there is at the data plate only once '99' , f.e. 92700-99aw-ogx-rü. For more information see corresponding data sheets.

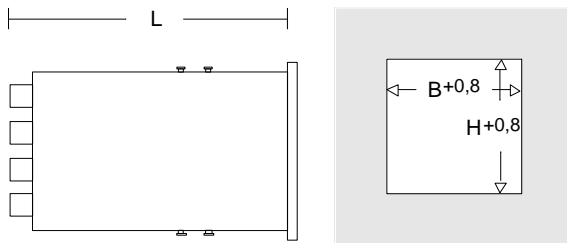
Characteristics: (parameters dep. on sub type:)

Adjustment on parameter level, with lock switch, pre adjusted on customer's demand.
Proportional band Xp: 0,1...999,9 %
Integral action time Tn: 0,0...999,9 min
Rate time Tv: 0,0...99,9 min
Sensitivity of response Xsh: 0,1...1,0 %
Travel time of the actuator Tm: 6...600 sec
Switching frequency cy: 2...120 sec
Function characteristics: direct / inverted
Switching interval SA (add. contacts): 0..100,0 K
Switching difference Sd: 0,1...100,0 K

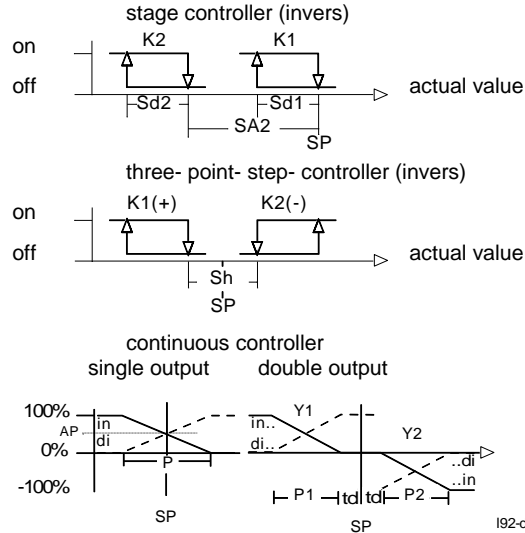
Additional contact functions:

As switching interval above and below setpoint or independent adjustable with own setpoint and measuring input, switching function adjustable (ref. to chapter additional switching contacts)

Installation dimensions:



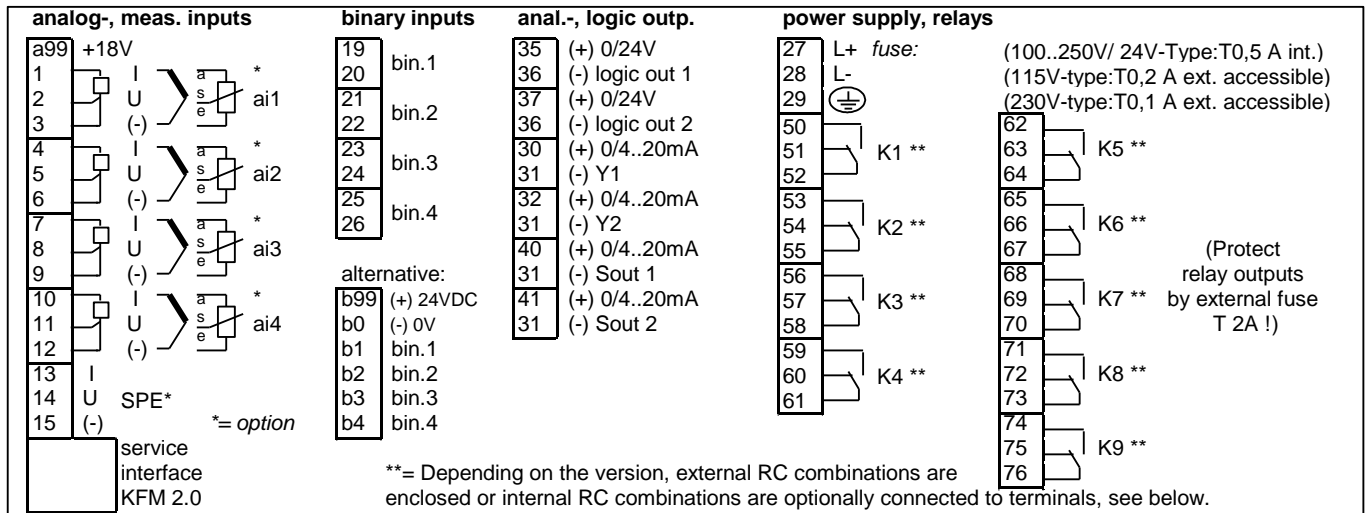
Form 96x96: L=150mm, B=92mm, H=92mm
Form 72x144: L=170mm, B=68mm, H=139mm



Other data:

Housing for panel mounting, 96 x 96 mm (type 92.., 93..) or 72 x 144 mm (type 94)
Power supply: 100-250VAC, 24VAC/DC (appr. 14 VA)
Protective system DIN EN60529: IP54 resp. IP65 (flat seal + 4 mounting elements), terminals IP20
Permissible ambient temperature: 0...60°C
Nominal temperature: 20°C
Climatic category: Relative humidity <= 75 % yearly average, no condensation, KWF to EN 60 529
EMC: refer to EN 61326

Wiring diagram: valid for each delivered controller is the wiring diagram on its casing only)



Wiring, examples for input 1 and output 1 respectively:

