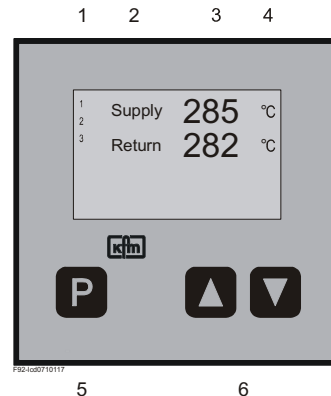


- 1 LCD display for relay function
- 2 Descriptive text for displayed values
- 3 Digital value displays
- 4 Unit of display
- 5 Key for setpoint and parameter mode
- 6 Setpoint adjustment

certifications: DIN, GL, BV



General:

KFM 902 is an industrial microcomputer-based controller series in control panel format 96 x 96 mm with a performance range of up to 8 relay outputs, various signal inputs and outputs as well as numerous possible optional extras. Communication with control systems is also possible.

All relay contacts are implemented as potential-free changeover contacts. Normally, the N.O. contacts of all relays are internally permanently wired with RC elements. Optionally, the RC elements for relays K1...K3 are led on terminals for the selective connection (N.O. contact factory-connected). The scope of delivery includes plugable terminal blocks.

The transfective LCD indication with white background lighting is easy to read in both light and dark environments. In operating mode up to 4 values (actual values, setpoint values, control settings, ..) can be displayed including freely adjustable description text and unit of display. Additional displays for operating and malfunction messages, including the corresponding hardware or custom display masks are optionally available.

Stage controllers and three-point step controllers with auxiliary contact (e.g. burner controller) are fitted as standard with a 2nd measuring input, continuous controllers have an extended measuring input range.

Types (depending on configuration):	<i>Type</i>	Measuring inputs:	<i>Type suffix</i>
Indicator	9020..	(max. 4, depending on version)	
Single-stage controller	9021..	Pt100/standard signal, 0...400°C/adj.	without (or 0)
Two-stage controller	9022..	Pt100/standard signal, -200...+800°C/adj.	99mb14b
Three-point controller	9023..	Thermal element NiCr-Ni (K)0...1200°C	
Positioner / follow-up controller	9024..	Fe-CuNi (J)0... 900°C, PtRh-Pt (S)0...1700°C	qt
Two-point PID controller	9025..	Remote resistance transmitter 0...100/1000Ω	qw
Three-point PID controller	9026..	Feature for meas. input 2 with equipment external setpoint:	
Three-point step controller	9027..	Standard signal configurable to ext. setpoint value, the	
Continuous controller	9028..	Pt100 input is extra usable	
Continuous controller with 2 outputs	9029..		

Sub-types:	<i>suffix</i>
Basic function	00
Basic function + 1..8 additional contacts	01..08
Basic function double, triple, quadruple	20,30,40
Logic output 0/24V max 40mA	..L

Function extensions:(*)	
Difference controller	991d
Limitation controller	991g
Cascade controller	991k
Program controller	991p
Ramp setpoint	991r
Malfunction modul	991s
Stage controller	991t

Additional devices:(*)	
Additional analog inputs	(99) a.
External setpoint incl. switching	(99) bwa.
Second setpoint incl. switching	(99) bwz.
Binary inputs for special functions	(99) b..
Further additional contacts	(99) f
Analog signal outputs	(99) o.
Interface by external module for Profibus, Modbus, Ethernet, ..	(99) s..

*See also data sheets 99.. !
subject to alterations

Ranges:
Pt 100: 0..400°C (switching controllers), -200..+800°C (continuous controllers), switchable to °F, standard signal: Display adjustable -999 to 9999, setpoint range can be limited via menu

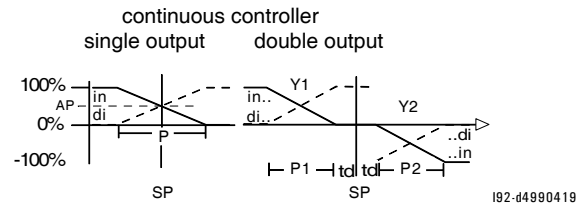
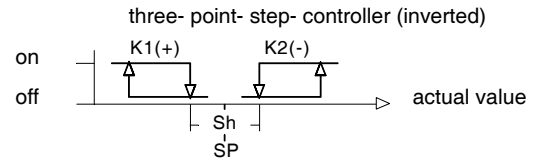
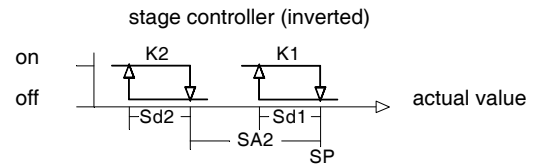
Binary inputs:
Max. 20 inputs, alt. for potential-free contacts or for ext. voltage 0 / 24V, for status messages (can optionally be saved) or control functions.

Displays:
Max. 4-four-digit value displays with selectable decimal point, each including adjustable descriptive text and unit of display, optional add. message texts, custom display masks, up to 8 displays for relay functions.

Outputs:
Up to 8 relays as setting outputs or additional contacts, with potential-free changeover contacts, switching power 250V 2A incl. spark extinction (on the N.O. contact)
up to 6 continuous outputs 0/4...20mA, 0/2...10V (load <= 500 Ω), as setting or signal output
up to 3 logic outputs 0/24V max. 40 mA, alternatively 16 outputs open collector, max 24 V / 100 mA

Characteristics: (parameters dep. on sub type:)

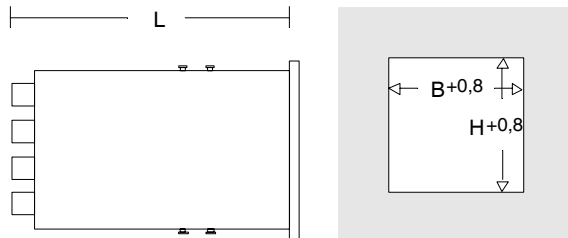
Adjustment on parameter level, code locked,
pre adjusted on customer's demand.
Proportional band Xp: 0,1...999,9 %
Integral action time Tn: 0,0...999,9 min
Rate time Tv: 0,0...99,9 min
Sensitivity of response Xsh: 0,1...1,0 %
Travel time of the actuator Tm: 6...600 sec
Switching frequency cy: 2...120 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:

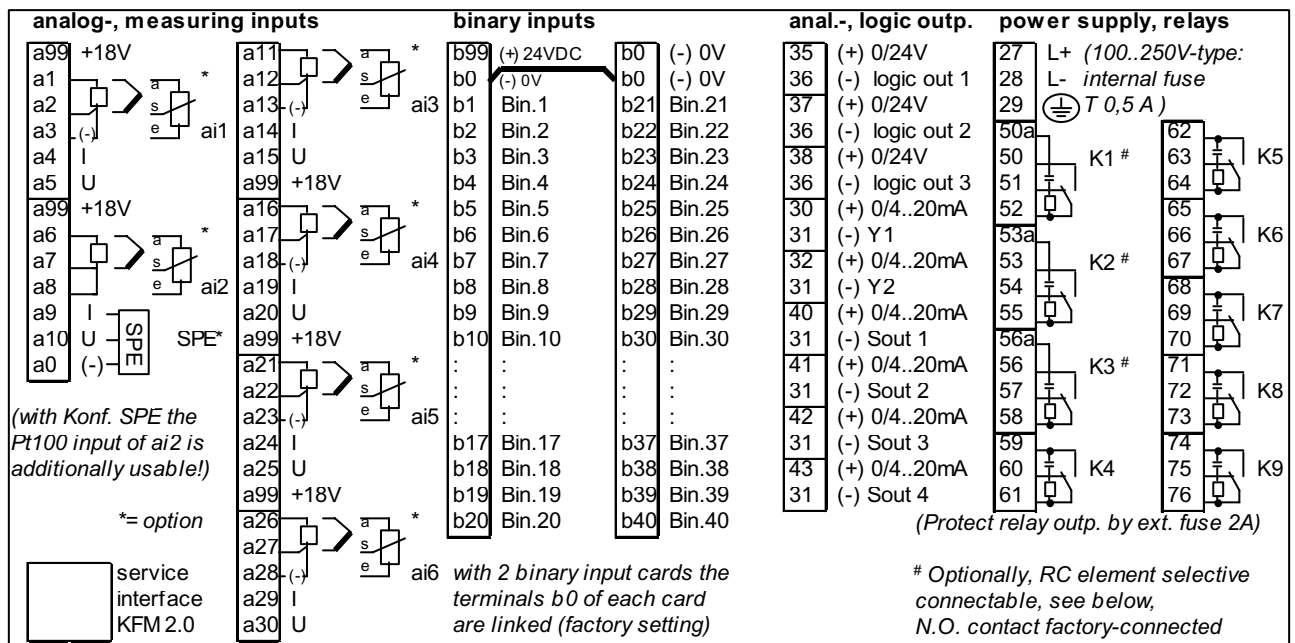


Form 96x96: L=150mm, B=92mm, H=92mm

Other data:

Housing for panel mounting, 96 x 96 mm
Power supply: 100..250 VAC, about 14 VA
alternative 24 V AC / DC
Protective system EN 60529: IP54 (terminals IP20)
Permissible ambient temperature: 0...60°C
Nominal temperature: 20°C
Climatic category: KWF to EN 60529
Relative humidity <= 75 % yearly average,
no condensation
EMC: referring to EN 61326

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



Wiring, examples for input 1 and output 1 respectively:

