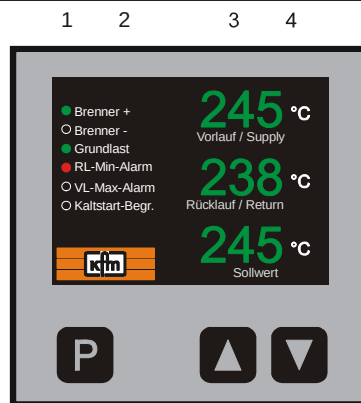


- 1 Display for relay function
- 2 Descriptive text for relay functions
- 3 Descriptive texts and digital value displays
- 4 Unit of display
- 5 Key for setpoint and parameter mode
- 6 Setpoint adjustment

certifications: DIN, GL, BV



General:

KFM 903 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 pluggable terminal blocks.

The transmissive colour TFT indication is easy to read in both light and dark environments. In operating mode up to 4 values (actual values, setpoint values, control settings, time ..) can be displayed including freely adjustable description text and unit of display as well as 8 displays for relay functions, optionally including freely adjustable description text. Additional displays for operating and malfunction messages with time stamp, including the corresponding hardware, and graphical real-time representation of actual- and setpoint values or custom display masks are available.

Stage- and three-point step controllers with auxiliary contact (e.g. burner contr.) are fitted as standard with a 2nd measuring input. Additional contacts can be switched time dependent using the integrated real time clock.

Types (depending on configuration):	Type	Measuring inputs:	Type suffix
Indicator	9030..	(max. 6, depending on version)	
Single-stage controller	9031..	Pt100/standard signal, -200...+800°C/adj.	without (or 0)
Two-stage controller	9032..	Thermal element NiCr-Ni (K)0...1200°C	
Three-point controller	9033..	Fe-CuNi (J)0... 900°C, PtRh-Pt (S)0...1700°C	qt
Positioner / follow-up controller	9034..	Remote resistance transmitter 0...100/1000Ω	qw
Two-point PID controller	9035..	Feature for meas. input 2 with equipment external setpoint:	
Three-point PID controller	9036..	Standard signal configurable to ext. setpoint value, the	
Three-point step controller	9037..	Pt100 input is extra usable	
Continuous controller	9038..		
Continuous controller with 2 outputs	9039..		
Sub-types:	suffix	Ranges:	
Basic function	00	Pt 100: -200...+800°C, switchable to °F,	
Basic function + 1..8 additional contacts	01..08	standard signal: Display adjustable -999 to 9999,	
Basic function double, triple, quadruple	20,30,40	setpoint range can be limited via menu	
Logic output 0/24V max 40mA	..L	Binary inputs:	
Function extensions:(*)		Max. 20 inputs, alt. for potential-free contacts or for	
Difference controller	991d	ext. voltage 0 / 24V, for status messages (can	
Limitation controller	991g	optionally be saved) or control functions.	
Cascade controller	991k	Displays:	
Program controller	991p	Max. 4-four-digit value displays with selectable	
Ramp setpoint	991r	decimal point, each including adjustable descriptive	
Malfunction modul	991s	text and unit of display, optional add. message texts	
Stage controller	991t	with time stamp, custom display masks also with real-	
Additional devices:(*)		time graphical representation, up to 8 displays for	
Additional analog inputs	(99) a.	relay functions incl. freely adjustable description texts.	
External setpoint incl. switching	(99) bwa.	Outputs:	
Second setpoint incl. switching	(99) bwz.	Up to 8 relays as setting outputs or additional contacts, with	
Binary inputs for special functions	(99) b..	potential-free changeover contacts, switching power 250V 2A	
Further additional contacts	(99) f	incl. spark extinction (on the N.O. contact)	
Analog signal outputs	(99) o.	up to 6 continuous outputs 0/4...20mA, 0/2...10V	
Interface by external module for		(load <= 500 Ω), as setting or signal output	
Profibus, Modbus, Ethernet, ..	(99) s..	up to 3 logic outputs 0/24V max. 40 mA, alternatively	
		16 outputs open collector, max 24 V / 100 mA	

*See also data sheets 99.. !

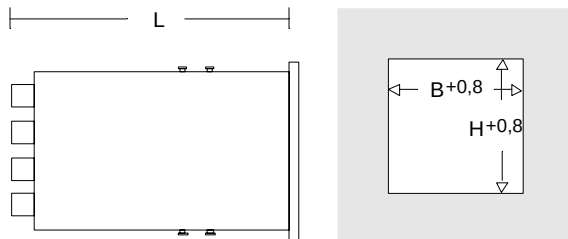
Characteristics: (parameters dep. on sub type:)

Adjustment on parameter level, code locked,
pre adjusted on customer's demand.
Proportional band X_p : 0,1...999,9 %
Integral action time T_n : 0,0...999,9 min
Rate time T_v : 0,0...99,9 min
Sensitivity of response X_{sh} : 0,1...1,0 %
Travel time of the actuator T_m : 6...600 sec
Switching frequency γ : 2...120 sec
Function characteristics: direct / inverted
Switching interval SA (add. contacts): 0..100,0 K
Switching difference Sd: 0,1...100,0 K

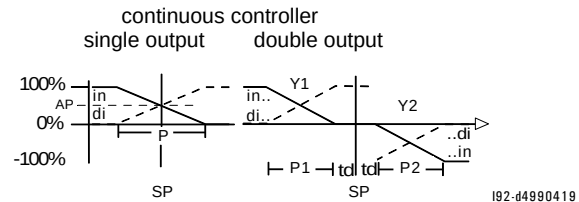
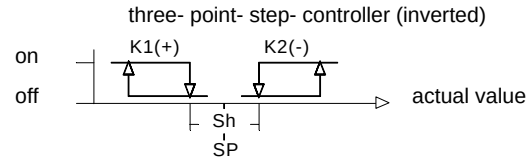
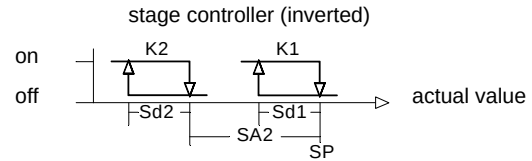
Additional contact functions:

As switching interval above and below setpoint or independent adjustable with own setpoint and measuring input or time dependent, switching function adjustable

Installation dimensions:



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

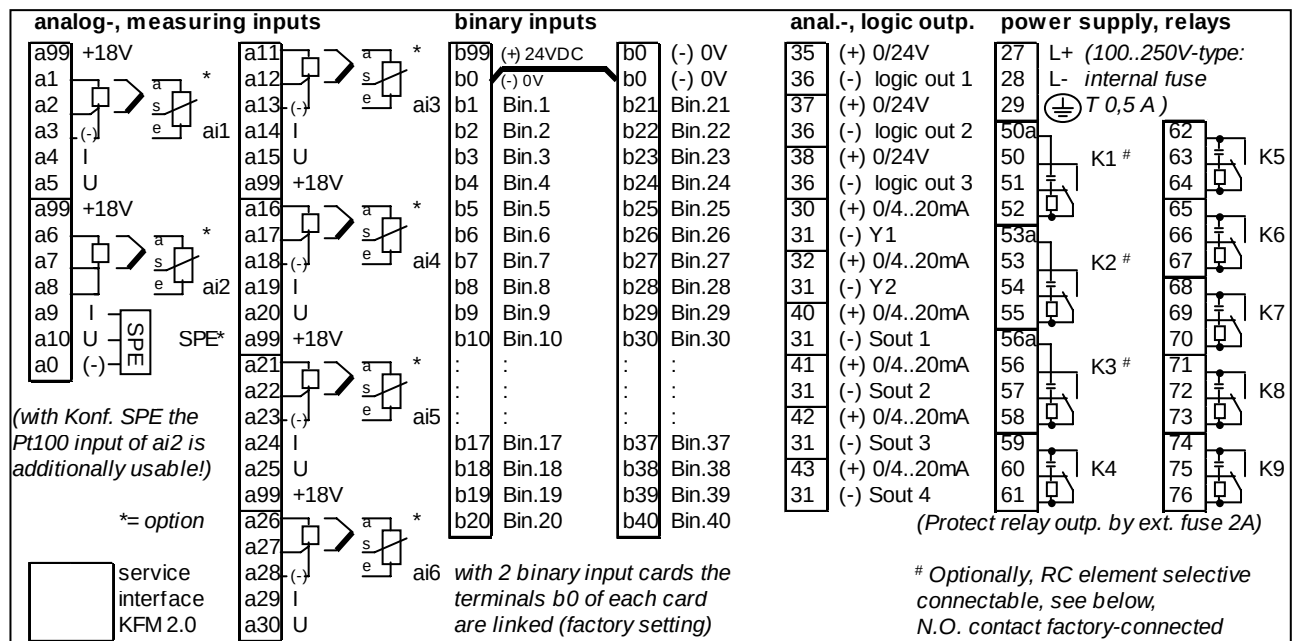


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Other data:

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 $\leq$ 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:

