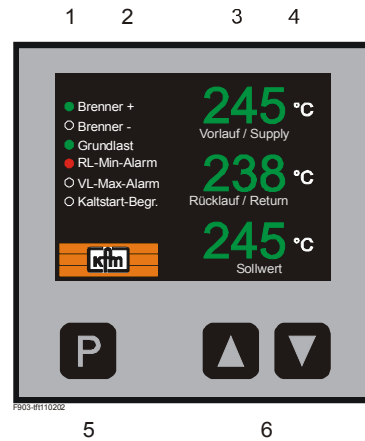


- 1 Display for relay function
- 2 Descriptive text for relay functions
- 3 Descriptive texts and digital value displays
- 4 Unit of display
- 5 Key for setpoint and parameter mode
- 6 Setpoint adjustment

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 9 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. Depending on the version, external RC combinations are enclosed or internal RC combinations for optional connection led on terminals (bridged to NO contacts at the factory). The scope of delivery includes plugable terminal blocks.

The transmissive colour TFT indication is easy to read in both light and dark environments.

Parameter set, TFT- configuration, data logger recordings and fault history can be transferred by means of conventional USB stick. Irrespective from that, the continuous logger data is automatically saved on a regular basis if the USB stick is inserted.

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

<b>Types</b> (depending on configuration):	Type
Text-indicator	903000
Indicator	90301..
Single-stage controller	9031..
Two-stage controller	9032..
Three-point controller	9033..
Positioner / follow-up controller	9034..
Two-point PID controller	9035..
Three-point PID controller	9036..
Three-point step controller	9037..
Continuous controller	9038..
Continuous controller with 2 outputs	9039..

<b>Sub-types:</b>	suffix
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

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

<b>Additional devices:(*)</b>	
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.
ext. module f.Profibus,Modbus,Ethernet..	(99) s..

<b>Measuring inputs:</b>	Type suffix
(max. 8, depending on version)	
Pt100/standard signal, -200...+800°C/adj.	without (or 0)
Thermal element NiCr-Ni (K)0...1200°C	
Fe-CuNi (J)0... 900°C, PtRh-Pt (S)0...1700°C	qt
Remote resistance transmitter 0...100/1000Ω	qw
Feature for meas. input 2 with equipment external setpoint:	
Standard signal configurable to ext. setpoint value, the Pt100 input is extra usable	

**Ranges:**  
Pt 100: -200...+800°C, 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 with time stamp, custom display masks also with real-time graphical representation, up to 9 displays for relay functions incl. freely adjustable description texts.

**Outputs:**  
Up to 9 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

\*See also data sheets 99.. !

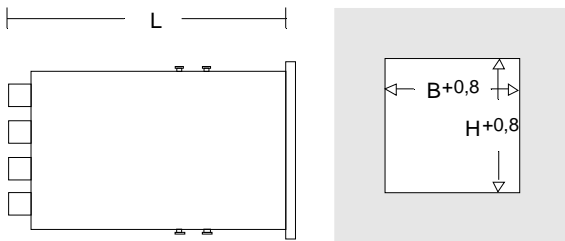
**Characteristics:** (parameters dep. on sub type:)

Adjustment on parameter level, code locked,  
pre adjusted on customer's demand.  
Proportional band 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

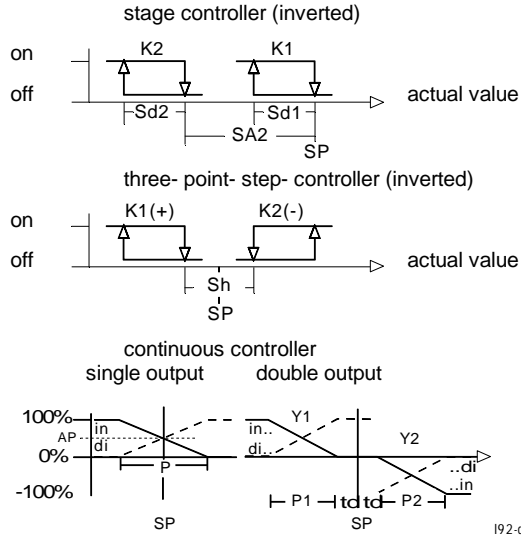
**Additional contact functions:**

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

**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)

