

Signal Interface

Series MAP



Special features

- process-controlled indicator with digital display
- precision 0.01 %
- scope of measurement range -9 999 ... + 40 000
- adaptation of potentiometric sensors
- adaptation of active sensors with standardized output signal
- up to 32 meas./s
- tare function
- max. 4 programmable limiting value comparators
- peak memory
- programming inhibit function
- communication via logic in- and outputs
- Interface RS 232
- analogue output function with standardized signals
- integrated auxiliary power supply for active sensors
- CE mark

Description

The fully galvanically isolated microprocessor-controlled indicators permit the connection of all potentiometric sensors as well as sensors with

standardized output signals. As a result of digital programming, measured values can be displayed and monitored on site irrespective of measurement length, angle or scaling range.

Precision and reliability

The outstanding precision of up to 0.01 % afforded by the measuring devices is achieved by the use of selected components which guarantee optimum temperature stability and interference immunity.

The sensors of these new measuring devices are fed by a highly constant voltage supply. The input and output voltage is continuously monitored by the processor and compared to reference data in the memory. This excludes the possibility of measurements being falsified by voltage and temperature fluctuations. In the design of the units, every conceivable aspect was taken into account to ensure

effective EMC protection. The supply input, measurement input and RS 232 interface are all equipped with special interference suppressor filters.

Customtailored configuration

Depending on requirements, there are four different configurations with additional options available, with even the basic version offering a comprehensive range of application possibilities.

Tare function

The tare function permits zeroing of the current display value at any optional position. All subsequent measurements indicate the differential to the stored measured value.

Limiting values

The limiting value comparators with adjustable switching function and hysteresis are freely programmable over the entire measurement range or within the scale.

Peak memory

The peak memory permits the currently displayed or limiting value to be frozen. In the upgraded version, it is additionally possible to display or freeze maximum, minimum and differential values (slave pointer function).

Inhibit function

This function safeguards the programmed data against unauthorized or unintentional editing. During programming, it is only possible to display the data.

Value interrogation

To further process a display value using a higher-level control system, it can be read out using logic outputs in BCD or HEX format.

Interface function

The interface function defines which peripheral unit is accessed by the RS 232 interface. The options are printer output, remote accessing or remote control via PC or PLC.

Analogue output

The optional analogue output permits the connection of external measurement, control or recording devices. Standardized output variables can be selected, whereby the start and end values can be freely programmed over the entire extent of the measured range.

Application

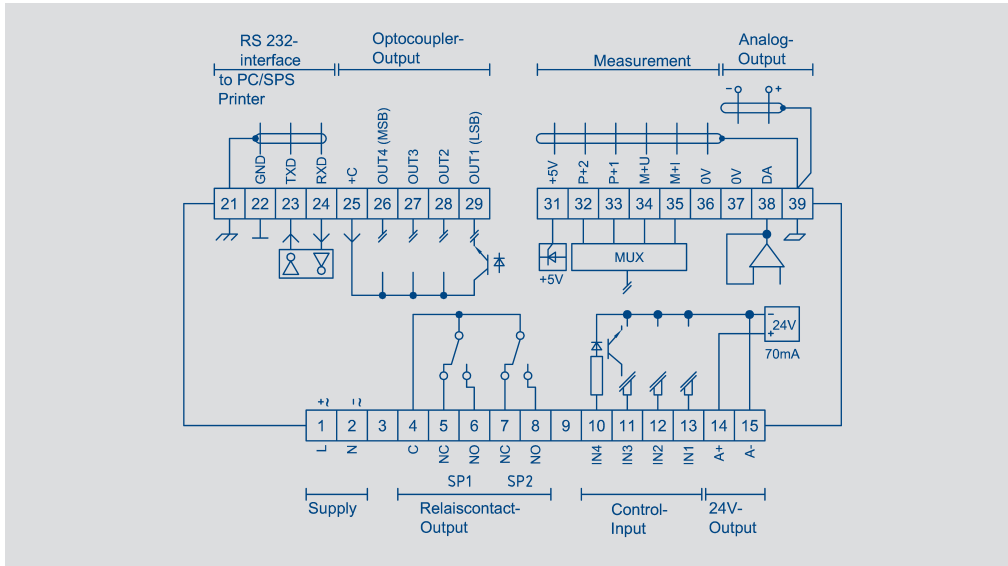
The panel-mounting indicator is used for the display and monitoring of linear and angular values, for example for position detection in grinding and sawing machines, running gear travel, metering strokes, valve and air flap positions, or for functions relating to test and inspection equipment construction, quality assurance and production control.

Type designations	Basic version		Upgraded version		Intelligent version		Full version
	MAP330	MAP340	MAP332	MAP342	MAP334	MAP344	MAP444
Scope of measurement range	-2.000... +2.000	-9.999... +20.000	-2.000... +2.000	-9.999... +20.000	-4.000... +4.000	-9.999... +20.000	-9.999... +40.000
Measurement rate /sec.	1...16	1...16	1...16	1...16	1...32	1...16	1...16
Auxiliary voltage	•	•	•	•	•	•	•
Tare function	•	•	•	•	•	•	•
Limiting values	0	0	2	2	4	4	4
Peak memory					•	•	•
Programming inhibit function					•	•	•
Digital output BCD/Hex					•	•	•
Interface RS232					•	•	•
Analogue output	Option	Option	Option	Option	Option	Option	Option
Measurement input	Optional potentiometric or active input (current or voltage) [MAP330/ 340/ 332/ 342]				Supplementary option potentiometric and active input (current) [MAP334/ 344]		Potentiometric and active input (current and voltage) [MAP444]
Voltage supply	Standard 230 VAC (optional feature 115 VAC or 24 VDC)						

• = Included in delivery
Other models on request

Technical data		
Voltage supply	230 VAC, 50/60 Hz, 6 VA 115 VAC 50/60 Hz, 6 VA 24 VDC, 0,5 A; (20...30 VDC)	
Display	5 digit LED-measured value display, 14 mm high 1 digit LED programming unit display, 7 mm high	
Scope of measurement range	MAP330/332 MAP334 MAP340/342/344 MAP444	-2000...+2000 -4000...+4000 -9999...+20000 -9999...+40000
Precision	MAP330/332 MAP334 MAP340/342/344 MAP444	0,05 %, ±1 Digit 0,03 %, ±1 Digit 0,01 %, ±1 Digit 0,01 %, ±1 Digit
Measurement rate	Standard MAP334	1/2/4/8/16 meas./s 1/2/4/8/16/32 meas./s
Temperature coefficient	MAP330/332/334 MAP340/342/344 MAP444	50 ppm/°C 20 ppm/°C 20 ppm/°C
Control inputs	MAP330/340 MAP332/342 MAP334/344/444	2 x 20-30 V /typ. 5 mA 2 x 20-30 V /typ. 5 mA 4 x 20-30 V /typ. 5 mA programmable functions
Comparator	MAP332/342 MAP334/344/444	2-fold limiting value comparator 4-fold limiting value comparator
Relay output	only in versions with limiting values	2 x changeover contact 250V max./ 1A limiting value output
Optocoupler output	MAP334/344 MAP444	4 x logic outputs max. 50 V/30 mA for limiting values or value interrogation

Technical data		
Measurement inputs	MAP330/340 MAP332/342 MAP334/344 MAP444	Standard: potentiometer or 0(4)...20 mA or 0...10 V Standard: potentiometer and 0(4)...20 mA or 0...10 V and 0(4)...20 mA
Interface	MAP334/344 MAP444	RS 232
Auxiliary voltage output	24 VDC, 70 mA non-stabilized No-load voltage max. 30 VDC	
Protection class	IP00 at terminals, IP40 at front of housing to DIN 40050	
Analogue outputs (supplementary option MAP444)	0...10 V/ 0...20 mA/ 4...20 mA; resolution 0,05 % Current output: burden impedance max. 400Ω Voltage output, load impedance min. 10 kΩ	
Ambient temperature	0...50° C	
Dimensions		
Housing	H48 x W96 x D135 mm	
Recess measurements	H92 x W45	
Terminal	screw-type, plugable	



Terminal diagram

Terminal assignment

- 1 Supply voltage AC (L) or DC (+)
- 2 Supply voltage AC (N) or DC (-)
- 3 Not assigned
- 4 Common terminal limiting values
- 5 Break contact output limiting value 1
- 6 Make contact output limiting value 1
- 7 Break contact output limiting value 2
- 8 Make contact output limiting value 2
- 9 Not assigned
- 10 Control input 4
- 11 Control input 3
- 12 Control input 2
- 13 Control input 1
- 14 Auxiliary supply output 24 V (+)
- 15 Auxiliary supply output 24 V (-) (common terminal control inputs)
- 21 Shielding RS 232
- 22 GND interface RS 232
- 23 TXD interface RS 232
- 24 RXD interface RS 232
- 25 Reference potential (+V inp.) for optocoupler outputs
- 26 Optocoupler outputs 4 (MSB)
- 27 Optocoupler outputs 3
- 28 Optocoupler outputs 2
- 29 Optocoupler outputs 1 (LSB)
- 31 Sensor terminal 3
- 32 Measurement input or DMS-
- 33 Sensor terminal 2 or DMS+
- 34 Measurement input voltage (f.e. 0...10 V DC)
- 35 Measurement input current (f.e. 0...20 mA DC)
- 36 Sensor terminal 1 or 0V
- 37 0V
- 38 Analogue output
- 39 Shielding fo measurement input and analogue output

