



ELAPCM 78

MICROPROCESSOR

COUNTER

DISPLAY

Combined to appropriate transducers (encoders or PD linear transducers), CM78 solves all problems tied to counting and displaying of length or thickness measure, as well as of machined pieces number, which can arise on any type of manufacturing machine. CM78 offers several different application possibilities: in addition to all machines performing cuttings or machining at a preset size, CM78 can be applied in various sectors, from the food sector (e.g. machines for pasta plants to predetermine the quantity of product to work), to the wood sector (e.g. honing machines to check the panel thickness), from steel sheets (e.g. presses to display the ram position or benders to indicate distance between rollers), to the glass (e.g. grinding machines for thickness control), marble (e.g. edge polisher to preset the operation of one head), to the fabric sector (e.g. finishing machines for meter counting with total and partial count). CM78 displays up to a maximum of 6 figures, with decimal point which can be set according to the need. Data saving at instrument turning off is assured on internal re-writable memory and no buffer battery is therefore required. A correcting factor of the input pulses can be set to obtain the display always matching the actual movements of the machine. Combinable transducers can be: an incremental rotary or linear, mono or bi-directional encoder or a self-amplified inductor, or two inductors 90 electrical degrees out of phase **Complying with CE standards**

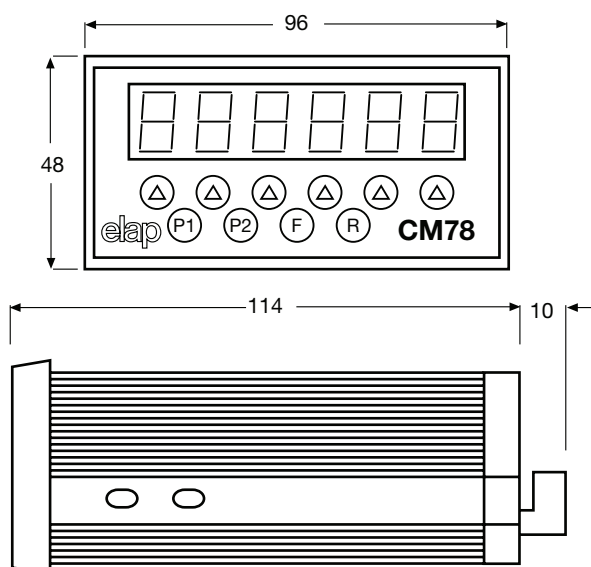
SOFTWARE VERSION

- Two-preset programmable electronic counter
- Programmable electronic counter/display with two settable thresholds (software stroke limiter functions) and measurement unit, settable at input (millimeters/inches)
- Programmable electronic counter/display with two settable thresholds and control of one zero encoder pulse
- Programmable electronic counter/display with partial/total count control, two preset positions and serial interface RS232, for data exchange with PC or fro printing

Moreover software for the customers' special applications can be developed on the instruments basic hardware.

One of CM78 most important characteristics is the possibility it offers to select the working model in a very simple way; the operation can be performed by the user himself.

DIMENSIONS



PANEL CUT OFF 92x45 mm

TECHNICAL CHARACTERISTICS

- 6 figures displayed or 5 with negative sign
- 24 or 10 or 220 Vac supply, 50/60 Hz
- Count input for NPN open collector signals
- 40 KHz direct count max frequency
- 2 normally-open relay outputs, 3 A max I, 220 V max V, 50 Hz
- 2 auxiliary inputs
- Settable decimal number
- Pulse correction factor at input
- Serial interface RS232 or RS485 (optional)
- Data storage at turning off on re-writable memory (EEPROM)
- Removable terminal box connections
- Front dimension; 48 x 96 mm; depth 114 mm

VARIATIONS ADMITTED WITHOUT NOTICE



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CM78 RX/R5:

Microprocessor Counter/Visualiser with Serial Transmission

- 6 displayed digits
- 2 settable presets
- supply 115 or 230 or 24Vac, 50/60Hz (to be defined in the order)
- functioning modes are freely settable by the user: decimal point position, correcting factor of the input pulses
- serial transmission **RS232** (code RX) or **RS485** (code R5)
- for counters only: single or repeat cycle, up- or down-counter, steady or timed outputs
- **H1**: on/off output **H2**: analogue output **H3**: on/off output and analogue input
- Dimensions: mm 96x48 Dept: **H1** mm 105 **H2-H3** mm 138

Hardware	Softw.	Functions
CM78H1RX	S003	Like S001 with RS232 serial interface equipped with flying 9-pin plug
CM78H1RX	S009	Like S002 with RS232 serial interface equipped with flying 9-pin plug
CM78H1RX	S010	Like S003 with instrument code manager to connect point to point to other instruments
CM78H1RX	S011	Like S009 with instrument code manager to connect point to point to other instruments
CM78H1RX	S024	Two preset counter with count reading/reset + set/reading of preset 1 and 2 via RS232
CM78H1RX	S029*	Tachometer/indicator of the ratio between two speeds with RS232 to transmit the displayed value to external units
CM78H1RX	S039*	Partial/total counter with serial transmission RS232
CM78H3RX-X21	S046	Display with analog input (potentiometer, current). Value reading/transmission via RS232 or external contact. Code manager to connect point to point to other instruments
CM78H1R5	S036	Like S010 with serial line RS485
CM78H1R5	S037	Like S011 with serial line RS485
CM78H1R5	S038	Like S024 with serial line RS485
CM78H1R5	S043	Like S009 with serial line RS485
CM78H1R5	S044	Like S003 with serial line RS485

* Program which can be converted for serial line RS45.



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CM78

Microprocessor Multifunction Counter/Visualiser

- 6 displayed digits
- 2 settable presets
- supply 115 or 230 or 24Vac, 50/60Hz (to be defined in the order)
- functioning modes are freely settable by the user: decimal point position, correcting factor of the input pulses
- for counters only: single or repeat cycle, up- or down-counter, steady or timed outputs
- **H1**: on/off output **H2**: analogue output **H3**: on/off output and analogue input
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<i>Hardware</i>	<i>Softw.</i>	<i>Functions</i>
		<i>Counter Versions</i>
CM78H1	S001	Two settable presets counter
CM78H1	S006	Like S001 with correcting factor ranging from 0.1 to 9.99999 sec.
CM78H1	S008	Counter with total/partial functioning mode
CM78H1	S013	2-preset counter - preset 1 enabled by input
CM78H1	S020	Microprocessor counter with partial/total function
CM78H1X12	S026	Preset counter with deceleration and stop outputs, possibility to be coupled to a cycle counter - Always with HDW version X12*
CM78H1	S027	1-preset counter with relay output and switch contact
CM78H1X12	S032	Preset counter like S026 with setup under key- HDW versX12*
CM78H1	S041	Counter like S006 with parameter P2 under key
		<i>Visualiser Versions</i>
CM78H1	S002	Two settable thresholds visualizer
CM78H1	S004	Two settable thresholds visualizer with optical scale zero pulse manager
CM78H1	S005	Two settable thresholds visualizer with encoder zero pulse manager
CM78H1	S007	Like S002 with correcting factor ranging from 0.1 to 9.99999 sec.
CM78H1	S012	Preset measure visualizer with correcting factor and LOAD input by keyboard or input
CM78H1	S017	Visualizer - absolute/relative from keyboard - unit from the input signal - 2 settable thresholds
CM78H1	S018	Preset measure visualizer like S012 with correcting factor range 0.1 to 9.99999
CM78H1	S022	Display of degrees and tenths, input by bidir.encoder 900 ppr
CM78H1	S028	Preset measure visualiser with blade thickness, load, mm/inch
CM78H1	S030	Visualiser like S002 with reset from keyboard
CM78H1	S031	Visualiser like S002 with correcting factor range 0.1÷9.99999 and load from keyboard
CM78H1	S034	Visualiser like S017 with front load
CM78H1	S035	Visualiser with dividing factor by 10/100/1000
CM78H1	S040	Visualiser with two settable thresholds + learning and stroke limiters
CM78H1	S042	Visualiser like S007 with parameter P2 under key
		<i>Digital Potentiometer</i>
CM78H2	S025	Displayed digital potentiometer with two settable thresholds, analogue output 0/10V or ±10V

CM78

Microprocessor Multifunction Counter/Visualiser

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<i>Hardware</i>	<i>Softw.</i>	<i>Functions</i>
		<i>Visualisers with analogue input</i>
CM78H3	S014	Visualizer with two settable thresholds and analogue input (potentiometric transducer, voltage, currents)
CM78H3	S016	Like S014, but stroke limiters are not modified by the display range variation
CM78H3	S047	Relative/absolute display with two settable thresholds
		<i>Tachometer Versions</i>
CM78H1	S019	Microprocessor tachometer with settable time base; indication of the ration between two speeds
CM78H1	S021	Double tachometer, percent slip between 2 speeds, 2 settable thresholds on the ratio between 2 speeds, possibility to disable the min.threshold
CM78H1	S023	Microprocessor tachometer with possibility to select working with indication V1 or V2 or ratio V2/V1 or percentage shift. Two thresholds on the displayed selection with relay outputs.
CM78H1	S045	Like S023 with display block
		<i>Tachometer for Low Frequencies</i>
CM78H1X24	S048	Pulses/minute speed indicator with correcting factor for the out-of-range calibration, without thresholds
CM78H1	S049	Pulses/minute speed indicator with correcting factor for the out-of-range calibration, with two thresholds



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