

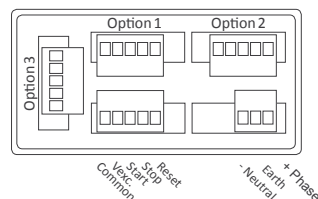
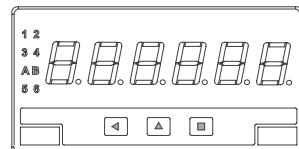
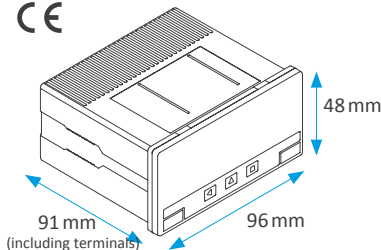
# M60-CR Chronometer

Time counter with external control for start, stop and reset. Reading at 6 digits with 14 mm digit height. Standard 96x48 mm (1/8 DIN) size, for panel mount. Configurable for decimal format and sexagesimal (clock) format. Provides excitation voltage for sensors. Universal high and low AC and DC power options. Optional retransmission and control modules with relays, analog outputs and serial outputs.

## Technical specifications

Digits	6
Sexagesimal reading	mm.ss.cc / hh.mm.ss / dd.hh.mm mmmm.ss / hhhh.mm / dddd.hh
Decimal reading	ssssss/sssss.s / ssss.ss / mmmmmm / mmmmm.m / mmmm.mm / hhhhhh / hhhh.h / hhhh.hh
Led color	red or green
Digit height	14 mm
Function	time counter (up and down counting)
Controls	start, stop, reset
Default controls*	free potential contact
* configurable for push-pull, NPN, PNP, inductive, ...	
Excitation voltage	+5 Vdc, +9 Vdc, +15 Vdc, +18 Vdc (max. 70 mA)
Maximum Vdc at input terminals	±30 Vdc
Accuracy	100 ppm
Display refresh	12 refresh / second
Reset	front, rear and 'on alarm' activation
Counting memory	maintains in case of power loss
Power 'H'	85 to 265 Vac/dc (isolated 2500 Veff)
Power 'L'	11 to 60 Vdc y 24/48 Vac (isolated 1500 Veff)
Retransmission and control options	relays, analog output, serial communications, ...
Consumption	<1.5 W (meter only) <4.0 W (meter with options)
Protection	IP54 standard (optional IP65)
Connections	plug-in screw terminal
Weight	<150 grams
Mounting	panel
Front size	96 x 48 mm
Panel cut-out	92 x 44 mm
Deep	91 mm (including terminals)
Operating temperature	0 to 50 °C

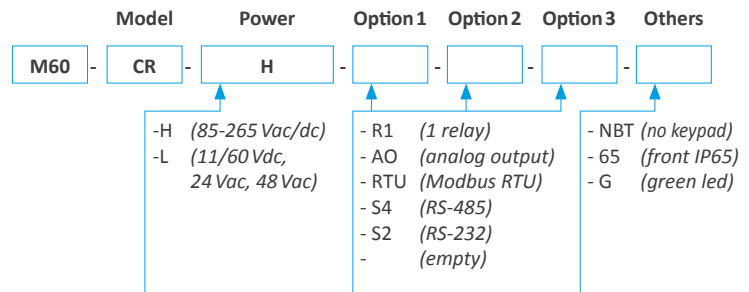
## Dimensions and connections



Detail of the plug-in screw terminal. The instrument is provided with all male and female terminals needed.



## Order reference



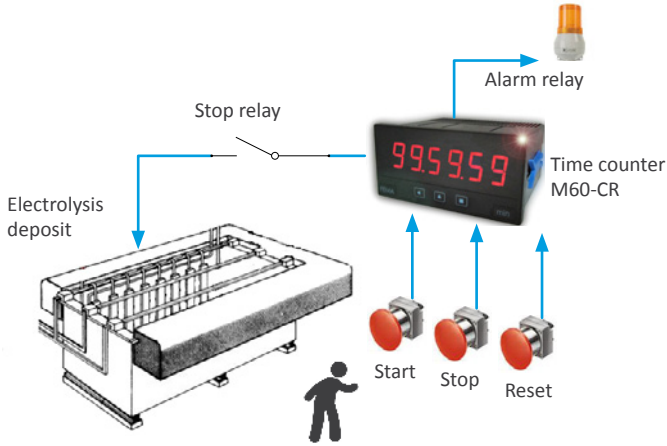
\* Relays R1 with contacts (NC / NO / Common), max. 250 Vac 8 A  
 \* Special options with 4 and 6 relays.  
 \* Analog outputs and serial outputs, isolated.

## Functions included

- 'Fast access' menu ..... a single press on the front keypad gives access to alarm setpoint modification, preset, memories, ...
- Special modes ..... external control for 'up' or 'down' counting, external control for 'hold' counting, second counter for cycles, second counter for total counting time, second counter for exceeded time counting, memory of longest and shortest cycles.
- Configurable reset ..... front and rear reset, and reset linked to alarm activation
- Preset ..... configurable
- Trigger level ..... configurable
- Function 'Trigger Sense' ..... help on setting the correct trigger level
- Sensor selection ..... by menu
- Retention memory ..... recovers the counting value in case of power loss
- 'On power-up' function ..... protects remote systems by delaying the output and control signals at cold start-up.
- Alarms ..... with one or two setpoints, independent activation and deactivation delays, hysteresis, optional manual deactivation of the relay.
- Inverted relay ..... for security applications
- Brightness ..... 5 levels of brightness intensity.
- Password ..... blocks access to configuration menu.

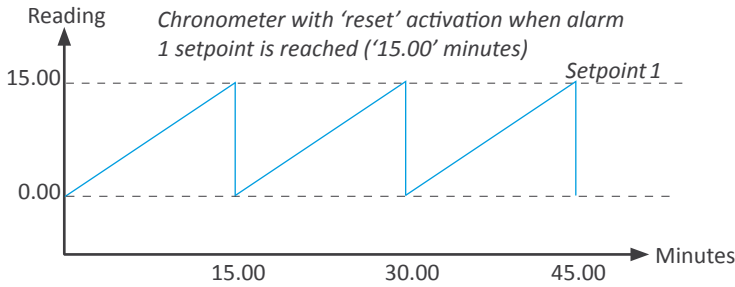
## Application example

Electrolysis application times, controlled by a M60-CR instrument. The operator assigns the time to apply the chemical treatment and the instrument will activate the 'Stop relay' when the configured time is reached. Additionally, a second time counter can be defined to count the 'exceeded' time since the alarm was activated, or the total accumulated time with treatment activated, for maintenance control of the deposit.



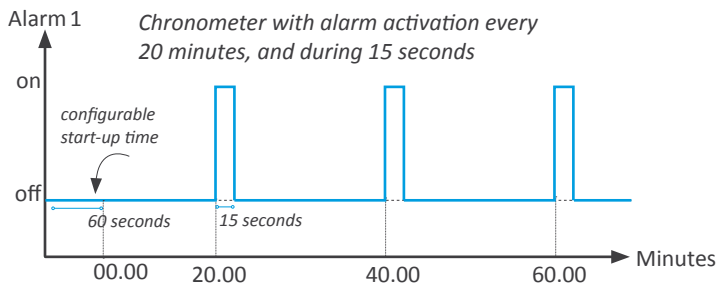
## Reset controls

Configurable reset activation : from rear terminal, from front keypad (configurable on / off) and in case of alarm activation.



## Repeated alarms

Alarms can be configured in 'repeat' mode. Alarm activates during a configured time each time the configured setpoint time is elapsed.



## Other options and accessories

Options for M Series of instruments and mounting accessories for 96x48 mm housings of M Series.



Without front keypad



DIN rail mount adapter



Green leds



96 x96 mm adapter



IP65 front sealing



Benchtop housing

## Web documentation

M60-CR user's manual  
 M60-CR datasheet

[www.fema.es/docs/3215\\_M60-CR\\_manual\\_i.pdf](http://www.fema.es/docs/3215_M60-CR_manual_i.pdf)  
[www.fema.es/docs/3193\\_M60-CR\\_datasheet\\_i.pdf](http://www.fema.es/docs/3193_M60-CR_datasheet_i.pdf)

## Reading distances

Reading distances and series of product for panel meters with digit height starting at 10 mm and up to 100 mm.

Digit height (mm)	10	14	20	60	100
Reading distance	4 m	5 m	8 m	20 m	40 m
Series	L35	Series M	Series K	BDF-24	BDF-44
		Series S			