

M60-C1 Impulse counter, Ratemeter

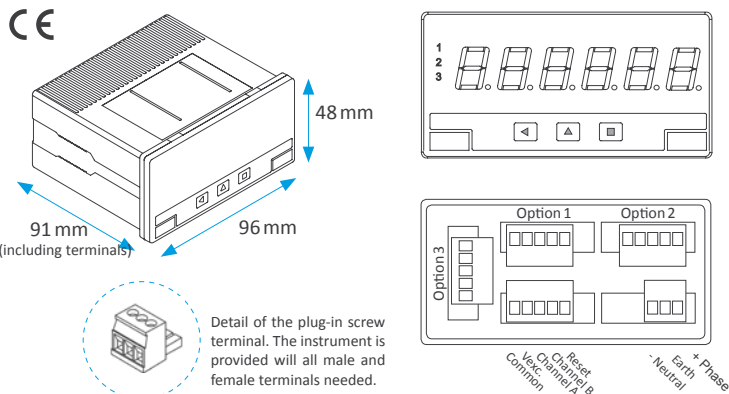
Impulse counter, ratemeter and periodmeter. Reading at 6 digits with 14 mm digit height. Standard 96x48 mm (1/8 DIN) size, for panel mount. Accepts all type of impulse signals and encoders. Provides excitation voltage for the sensor. Universal high and low AC and DC power options. Optional retransmission and control modules with relays, analog outputs and serial outputs.



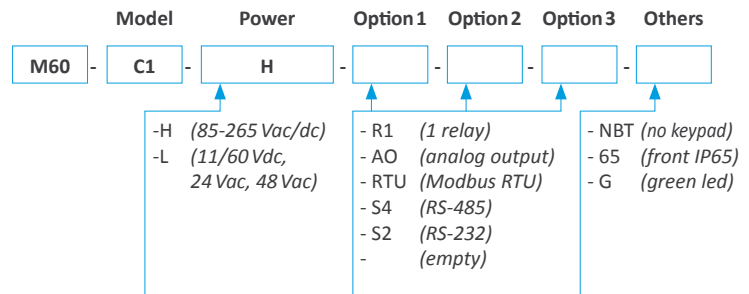
Technical specifications

Digits	6
Reading	999999 / -199999
Decimal point	configurable
Led color	red or green
Digit height	14 mm
Signals accepted	NPN, PNP, Namur, pick-up, TTL, inductive, mechanical, quadrature, ...
Excitation voltage	+5 Vdc, +9 Vdc, +15 Vdc, +18 Vdc (max. 70 mA)
Maximum Vdc at input terminals	±30 Vdc
Quartz accuracy	±0.01 %
Thermal stability	20 ppm/°C
Display refresh	15 refresh / second
Maximum frequencies	counter up to 250 KHz ratemeter and periodmeter up to 900 KHz
Minimum frequencies	ratemeter and periodmeter down to 1 mHz (0.001 Hz)
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



Order reference



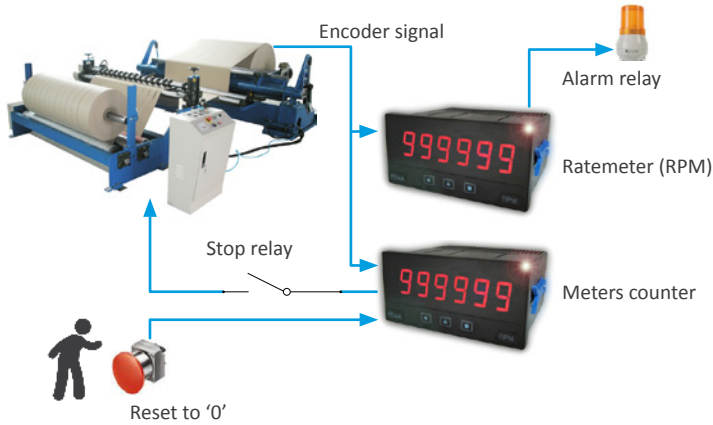
* Relays R1 with contacts (NC / NO / Common), max. 250 Vac 8 A
 * Special options with 4 and 6 relays.
 * Analog outputs and serial outputs, isolated.

Functions included

- 'Fast access' menu a single press on the front keypad gives access to alarm setpoint modification, preset, memories, ...
- Function 'SLOW' special mode for low frequency ratemeter applications
- Function 'FAST' special mode for high frequency counter applications
- Scaling factor multiplier and divider from 1 to 999999
- 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
- Cycle counter count of cycles defined by the 'on alarm reset' function
- 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
- Display filters recursive filters for unstable signals
- Brightness 5 levels of brightness intensity.
- Password blocks access to configuration menu.

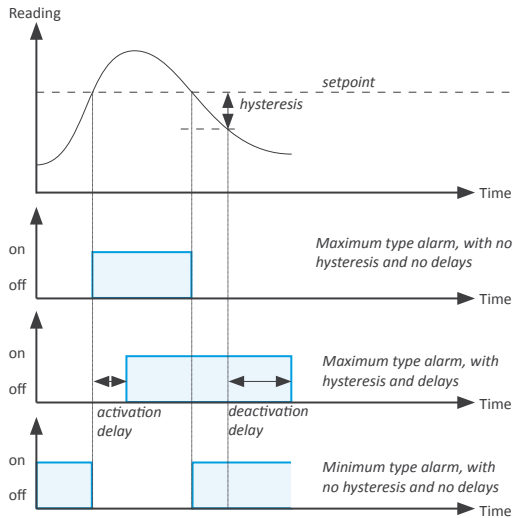
Application example

Reading of total processed meters on a paper mill. Signal received from a built-in bidirectional encoder at the roller. Operator has a manual reset control to set the counter to '0' at start. A relay output stops the mill when the total desired meters has been reached. A second meter, configured as ratemeter, reads the actual RPM speed of the roller. A relay output controls an alarm signal in case of excessive speed.



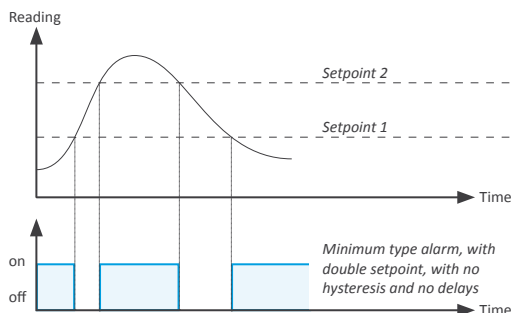
Alarms example

Alarms with one setpoint, configurable deactivation hysteresis, independent activation and deactivation delays.



Double setpoint alarms

Alarms with double setpoint, configurable as maximum or minimum, allow to create activation or deactivation windows..



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-C1 user's manual
 M60-C1 datasheet

www.fema.es/docs/2975_M60-C1_manual_i.pdf
www.fema.es/docs/3186_M60-C1_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			