

M60-LC for load cells



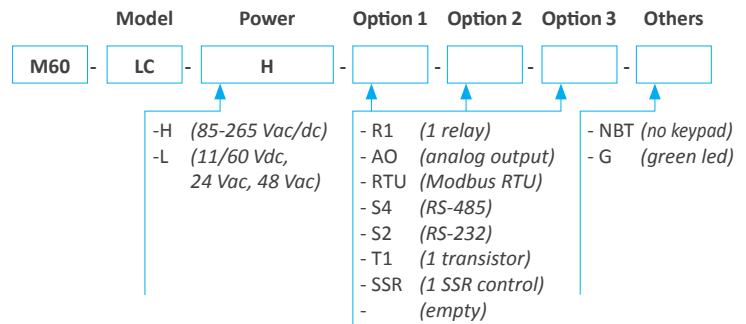
Panel meter for load cells with 4 and 6 wires. Standard 96 x 48 mm (1/8 DIN) size, and 6 digits with 14 mm digit height. Provides excitation voltage to power the load cell, configurable for 5 Vdc and 10 Vdc. Up to 60 samples per second. 'Tare' and 'auto-tare' functions. Universal high and low AC and DC power options. Optional output modules with relay, transistor, SSR control, analog outputs and MODBUS RTU communication.



Technical specifications

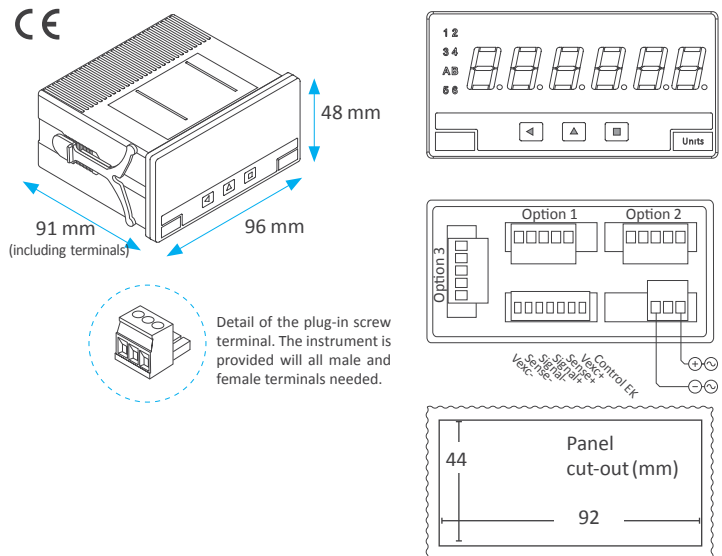
Reading	
digits	6
display	999999 / -199999
decimal point	configurable
led color	red or green
digit height	14 mm
digit type	7 segments
units	labeling 'Units-8' included (see 'Accessories')
Load cells	
types of load cells	1 mV/V, 2 mV/V, 3 mV/V and others
excitation voltage	5 Vdc o 10 Vdc configurable
maximum exc. current	140 mA
maximum Vdc at input	±30 Vdc
number of wires	4 and 6 wire cells
number of cells*	1 to 8 load cells (at 5 Vdc)
	* (for standard 350 Ohms cells)
Measurement	
signal ranges (internal)	100 mV, 30 mV, 20 mV, 15 mV, 10 mV, 5 mV
accuracy at 25 °C	0.05 % FS
thermal stability	50 ppm/°C
input impedance	20 MOhm
acquisitions per second (and alarms update)	16, 50 or 60 acq. / sec. (configurable)
display refresh (and bus and analog output update)	16, 50 o 60 acq. / seg. (configurable)
step response (0% to 99% of signal)	17, 20 or 63 mSec. (configurable)
signal terminals	plug-in screw terminals (3.81 mm pitch)
Output and control options	relays, analog outputs, Modbus RTU, ...
Configuration	by front keypad
External contact	with configurable functions
Power	
power 'H'	85 to 265 Vac / dc (isolated 2500 Veff)
power 'L'	11 to 60 Vdc and 24 / 48 Vac (isolated 1500 Veff)
consumption	<1.5 W (meter only) <4.0 W (meter with output options)
power terminals	plug-in screw terminals (5.08 mm pitch)
power wires	max. 2.5 mm ² (max. AWG14)
Mechanical	
front protection	IP65
connections	plug-in screw terminals
weight	<150 grams
mounting	panel
front size	96 x 48 mm (1/8 DIN)
panel cut-out	92 x 44 mm
depth	91 mm (including terminals)
operation temperature	0 to 50 °C
storage temperature	-20 to 70 °C
Packaging	
packing box	paperboard, 15 x 12 x 5 cm

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.

Dimensions and connections



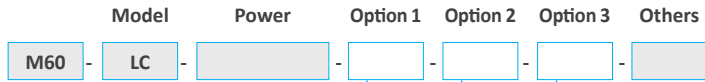
Additional documentation

M60-LC user's manual	www.fema.es/docs/4506_M60-LC_manual_en.pdf
M60-LC datasheet	www.fema.es/docs/4508_M60-LC_datasheet_en.pdf
Options user's manual	www.fema.es/docs/4254_SERIES_M-K-S_OPTIONS_manual_en.pdf

Functions included

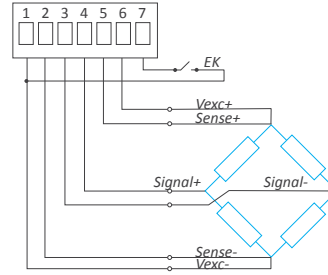
- Function **'Tare'** accessible from front key, rear contact, on power-up, and automatic tare
- Function **'Auto-tare'** automatic tare for signals close to '0'
- Function **'Maximum tare'** prevents tares at values far from '0'
- Function **'Scale factor'** scale the reading without reconfiguring the load cell parameters
- Function **'Stock units'** function to count the units based on weight
- Modes **'50 and 60 Hz'** fast acquisition modes
- Alarms activation 'standard' or 'by stability', with one or two setpoints, independent activation and deactivation delays, hysteresis, optional manual unlocking of the relay
- Display filters fixed digits, recursive filter, 'steps', left zeros
- Rear control 'EK' configure functions to the rear terminal
- Front key 'LE' (◀) configure functions to the front 'LE' key
- 'Fast access'** menu (▲) a single press on the front keypad gives access to alarm setpoint modification, gross weight, memories, ...
- Function **'On power-up'** configure functions to activate at power-up
- Memory maximum and minimum reading memories
- Brightness 5 levels of brightness intensity
- Password blocks access to configuration menu
- Troubleshooting functions access to real values for 'mV' signals, real excitation voltage at the cell, and excitation current provided

Output and control options

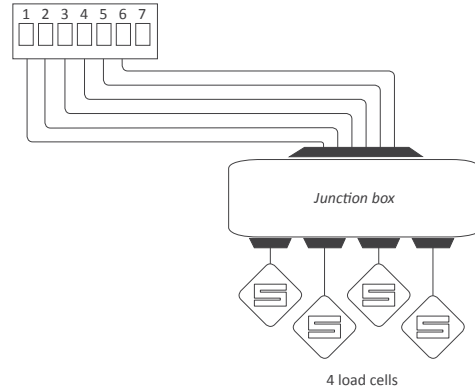


	Function	Installable options	Isolated
R1	1 relay output	3	yes
T1	1 transistor output	3	yes
SSR	1 control for SSR relay	3	yes
AO	1 analog output	3	yes
RTU	1 Modbus RTU port	3	yes
S4	1 RS-485 port	3	yes
S2	1 RS-232 port	3	yes
R2, R4, R6	special modules up to 6 relay outputs. Check for information.		

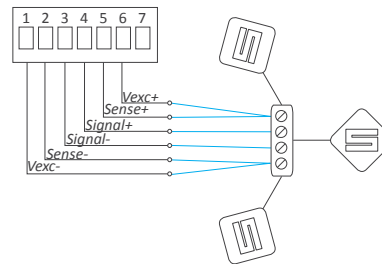
Connections with 1 load cell



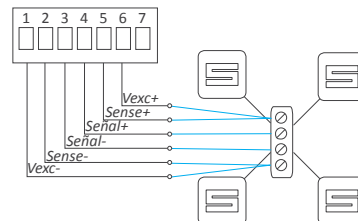
Connections with 'junction box'



Direct connection with 3 load cells

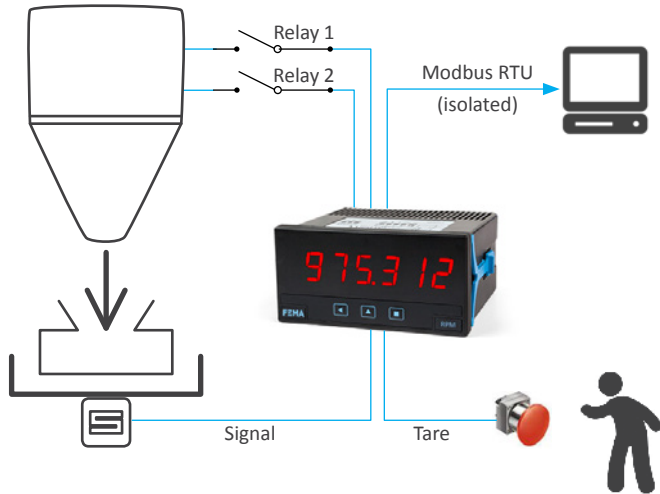


Direct connection with 4 load cells



Application example

Bucket filling with material from a silo. Measure and reading of the weight at the bucket, with automatic control for slow filling with relay 1 and final closing of the silo opening with relay 2. The measure is transmitted to a central data for storage and future analysis, via Modbus RTU.



Other options

Option NBT



Without front keypad

Option G



Green leds

Accessories

WME



Wall mount

DRA



DIN rail mount

THM



Benchtop housing

KIP



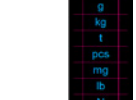
Protection cover

KA96



Adapter 96 x 96 mm

Units-8



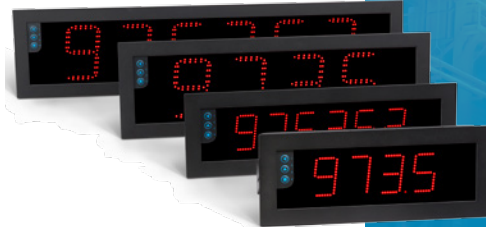
Labelling units (g, kg, t, pcs, mg, lb, N, kN)

Other meters for load cells

Series B

4 and 6 digits

digit height 60 and 100 mm
 color red, green
 reading 25 and 50 meters
 formats B24, B26, B44, B46



Series M

4, 5 and 6 digits

digit height 14 mm
 color red, green
 reading 5 meters
 size 96 x 48 mm

DIGITAL PANEL METER
SERIES M
 Full Signal Ranges Available



Series K

Further view

digit height 20 mm
 color red
 reading 8 meters
 size 96 x 48 mm

DIGITAL PANEL METERS
SERIES K
 20 mm Digit Size



Series S

Compact size

digit height 14 mm
 color red, green
 reading 5 meters
 size 72 x 36 mm

DIGITAL PANEL METERS
SERIES S
 Compact Size 72x36 mm



Other signals



FEMA

fema.es