

# 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)
	1 to 4 load cells (at 10 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 <sup>2</sup> (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
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## Order reference

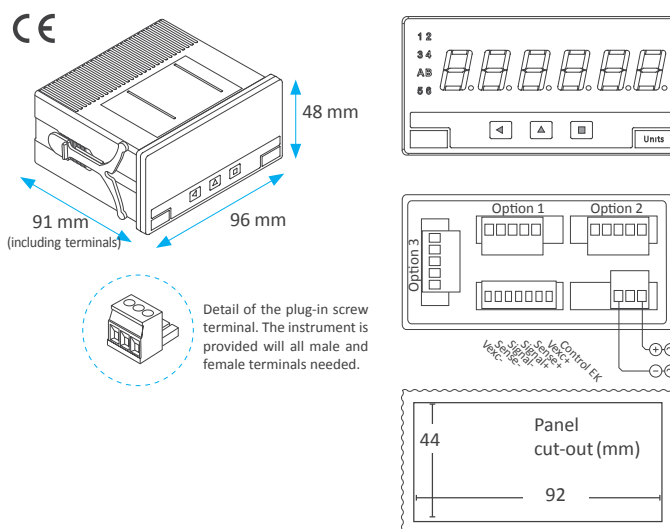
Model	Power	Option 1	Option 2	Option 3	Others
M60	LC	H			
	-H (85-265 Vac/dc) -L (11/60 Vdc, 24 Vac, 48 Vac)	- R1 (1 relay) - AO (analog output) - RTU (Modbus RTU) - S4 (RS-485) - S2 (RS-232) - T1 (1 transistor) - SSR (1 SSR control) - (empty)			- NBT (no keypad) - G (green led)

\* 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




<b>50</b> YEARS 1969-2019	<b>Q</b> ISO 9001 Certified Quality	<b>CE</b> EN-61010-1 Security	<b>CE</b> EN-61326-1 Electromagnetic C.	<b>5</b> YEARS Extended Warranty
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## 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

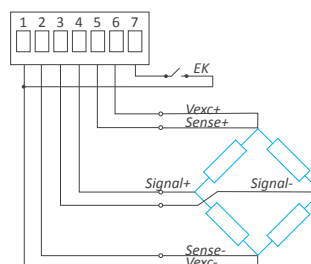
## Output and control options

Model      Power      Option 1      Option 2      Option 3      Others

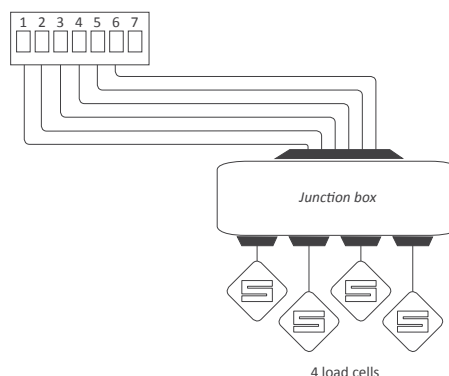
M60 - LC -  -  -  -  - 

	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.		

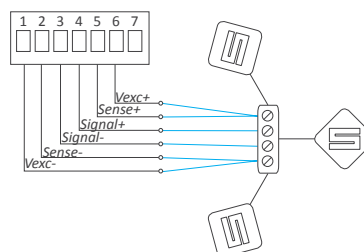
## Connections with 1 load cell



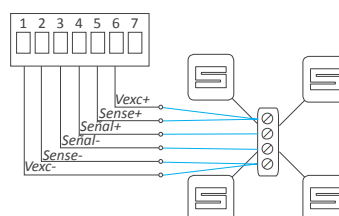
## Connections with 'junction box'



## Direct connection with 3 load cells



## Direct connection with 4 load cells



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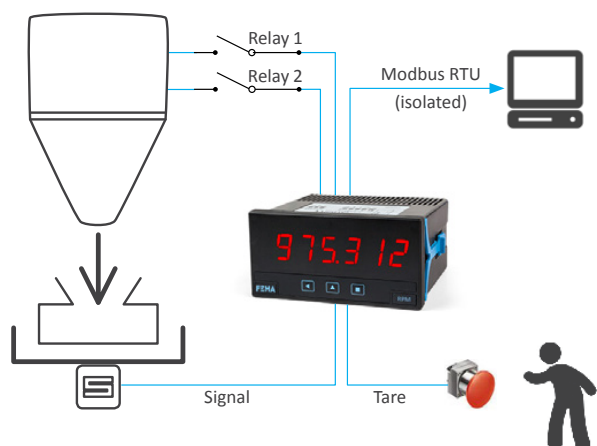
Electromagnetic C.

5  
YEARS

Extended Warranty

## 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



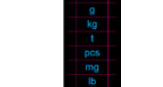
Protection cover

### KA96



Adapter 96 x 96 mm

### Units-8

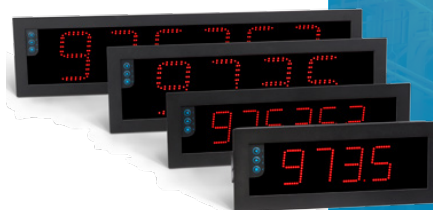


Labelling units  
(g, kg, t, pcs, mg, lb, N, kN)

## 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



Process



°C  
°F



Alarm



160%



Vac/Aac



Vdc/Adc



Hz



Modbus



RS-485



RS-232



BCD



Kg



RS-485



RS-232



Custom

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Security

CE

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Electromagnetic C

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YEARS

Extended Warranty

# FEMA

fema.es